

# Proceedings of the Review Meeting

22-23 January, 2016



## Thrust Areas of ICFRE Research:

Managing Forest & Forest Products for Livelihood Support & Economic Growth

Biodiversity Conservation & Ecological Security

Forests and Climate Change

Forest Genetic Resource Management & Tree Improvement

## Directorate of Research

**Indian Council of Forestry Research & Education (ICFRE)**

(An Autonomous body of the Ministry of Environment, Forests & Climate Change, Govt. of India)

**P. O. New Forest, Dehradun – 248 006**

# Index

| <b>Sl No.</b> | <b>Contents</b>   | <b>Page No</b> |
|---------------|---|----------------|
| 1.            | Minutes of the Review meeting   | 1-3            |
| 2.            | Budget Summary of ongoing, new approved projects and other research related activities ( <b>Table 1-7</b> ) | 4-7            |
| 3.            | Annexure I: Ongoing and new project of AFRI   | 8-12           |
| 4.            | Annexure II: Ongoing and new project of FRI   | 13-20          |
| 5.            | Annexure III: Ongoing and new project of HFRI   | 21-24          |
| 6.            | Annexure IV: Ongoing and new project of IFB   | 25-27          |
| 7.            | Annexure V: Ongoing and new project of IFGTB  | 28-35          |
| 8.            | Annexure VI: Ongoing and new project of IFP   | 36-39          |
| 9.            | Annexure VII: Ongoing and new project of IWST   | 40-45          |
| 10.           | Annexure VIII: Ongoing and new project of RFRI  | 46-51          |
| 11.           | Annexure IX: Ongoing and new project of TFRI  | 52-57          |
| 12.           | Annexure X: Completed ICFRE funded projects in 2015-2016  | 58-62          |
| 13.           | List of participants  | 63             |
| 14.           | Programme   | 64             |

### **Abbreviations**

| <b>Sl. No.</b> | <b>Abbreviation</b>                | <b>Description</b>                       |
|----------------|------------------------------------|--|
| 1.             | OG                                 | Ongoing projects                         |
| 2.             | CR                                 | Ongoing projects with change request     |
| 3.             | NW                                 | New projects approved for ICFRE funding  |
| 4.             | PR <sub>1</sub> ...PR <sub>n</sub> | Priority of Projects given by Institutes |

## **Minutes of the Review Meeting of the Ongoing Research Projects of ICFRE 22<sup>nd</sup> and 23<sup>rd</sup> January, 2016**

1. ICFRE on the annual basis conducts Research Advisory Group (RAG) meetings at Institute level and Research Policy Committee (RPC) meeting at ICFRE level to review and approve the annual research program of ICFRE Institutes. The major functions of the Institute level RAG meetings is to:
  - a) review the progress of all ongoing projects and
  - b) scrutinize and recommend new project proposals for approval to the RPC

In addition, the RAGs also provide platform where stakeholders gather and exchange views / ideas with the research personnel of the council.

RPC at ICFRE level is an apex body that provides policy directions to the Councils research program and coordinates the research work of the Institutes at national level. It also ensures the balance among international, national, regional and state requirements and gives directions for the new research agenda on the emerging issues. It reviews the ongoing projects, approves the modification in the ongoing projects and approves the new research proposals of the Institute's put up to it after due recommendation of Institutes RAGs. The RPC is also mandated to approve the proposals brought to it directly having national significance.

2. RAG and RPC meetings were accordingly held as scheduled to formulate research program of the Council for the years 2013-14, 2014-15 and 2015-16. Whereas the ongoing research programs were critically reviewed in these meetings, a large number of new project proposals were also approved. Most of the new approved projects, barring those approved for the Rain Forest Research Institute, Jorhat, however, could not be taken up for implementation due to fund scarcity. Most of the new approved projects for other ICFRE Institutes are still lying on shelf for more than 3 years. The fund scarcity has also impacted the implementation of even the ongoing projects. Many of the ongoing projects are requiring extension as funds as per approved plan could not be made available during the past 3-4 years for their effective implementation. With some of the ongoing projects culminating every year and no new projects being taken up for implementation in ICFRE Institutes except RFRI, the number of projects under implementation has come down from 263 in 2013-2014 to 170 in 2014-2015, 121 in 2015-2016. The number of ongoing projects is likely to fall to just 49 (excluding RFRI, Jorhat) during the year 2016-2017. The paucity of funds has also affected the long-term trials, nursery works and maintenance of botanical gardens, arboreta, estates and other research facilities. The financial year 2015-16 has proved to be the most difficult as no new projects except for RFRI Jorhat could be taken up in the ICFRE Institutes. Ongoing projects also received only marginal funding during 2015-16.
3. With this in view, a conscious decision was taken not to conduct Institutes level RAGs in 2015-16 and put on hold the RPC meeting for 2016. RFRI Jorhat, which get funds from under NE component, was, however, exempted from this and its RAG meeting has been scheduled for 10-11 March, 2016. The project details of RFRI Jorhat will be added after RAG meeting and final approval by Chairman, RPC (DG, ICFRE). In absence of RAG meeting's at Institute level, it was decided to conduct a review meeting of ongoing projects at ICFRE headquarters to review the progress of ongoing projects and suggests

changes/ modifications/ extension of ongoing projects, if required. With regard to new projects, it was decided to prioritise the projects approved by XVI RPC 2015, and presently kept on shelf, for implementation during 2016-17, based on the budget position for the year 2016-17. For RFRI, Jorhat the new projects and those requiring extension will be approved after the proceedings of RAG 2016 is received.

4. The review meeting was held on 22<sup>nd</sup> and 23<sup>rd</sup> January, 2016 with all the Directors, GCRs, DDGs, Director (IC), ADGs, Scientists of Research Directorate of ICFRE under the chairmanship of DG ICFRE who is also the chairman of RPC. List of participants of review meeting is at Appendix 1.

The agenda of the review meeting was –

- a) To review the status of expenditure as on 15 January 2016 against the fund allotted in general and in ongoing research projects
  - b) Preparedness of Institutes in case additional grant is received in remaining part of 2015-16 and discussion on some administrative issues
  - c) Review of ongoing projects, modification required if any and prioritization of new projects approved by XVI RPC 2015, the actual execution of which will depend on funds availability in 2016-17. The exercise was also carried out to estimate the budget requirement for research in 2016-17 for ongoing projects, new projects approved by XVI RPC 2015 and other research expenses like maintenance of laboratories and equipments, nurseries, field stations, field trials, plantations, research plots, seed banks etc. and addressing to other research needs of emergent nature. The requirement for 2016-17 is given in Tables 1 to 3.
5. Review meeting opened with the welcome of Dr. Ashwani Kumar, Director General, ICFRE, Directors of Institutes, DDGs, Director (IC), ADGs and Scientists of Research Directorate by Ms. Neena Khandekar ADG (Admin.). DG, ICFRE in his opening remarks welcomed all the Directors, DDGs and others. He informed the house that budget constraints in 2015-16 were serious as a result of which new projects could not be taken up. He requested the Directors to first make the presentations on expenditure status and then subsequently start with the presentation of the ongoing projects.
  6. The review of the expenditure status, preparedness for additional grants was presented by each Institutes' Directors separately, the meeting for which was coordinated by DDG (Admin.) and ADG (Admin.).
  7. The meeting on the review of the ongoing projects was coordinated by Dr. G.S. Goraya, DDG (Research) and Dr. Vimal Kothiyal, ADG (Research Planning). Review of all the 113 (duplicay of one project of RFRI, Jorhat corrected) ongoing projects of ICFRE Institute and eight newly started projects of RFRI Jorhat under NE components was conducted. Directors / GCRs of each institute presented the progress of projects thrust area wise. In all 121 (including 29 of RFRI, Jorhat) projects were reviewed. Out of the 72 projects which were to culminate on 31<sup>st</sup> March, 2016, fifteen (excluding RFRI, Jorhat) were given extension for a period of one year i.e. upto March 2017 within the approved budget outlay. The decision regarding the extension requirement of projects from RFRI, Jorhat will be taken after the receipt of proceeding of RAG of RFRI, Jorhat.

DG, ICFRE took a serious view of the projects put up for extension and directed the Directors to monitor the progress of the projects granted extension and ensure their completion. He also emphasized that the projects which have been granted extension will not

get further extension in future. This extension was necessitated due to inadequate budget allotment due to paucity of funds. In actual therefore 44 (excluding RFRI, Jorhat) projects will be completed by 31<sup>st</sup> March 2016 and 64 (excluding 'change request' of RFRI, Jorhat) projects will be continued in 2016-17. One of the new projects (included in 64 projects) of IFB, Hyderabad approved by RPC 2015 on "Development of integrated pest management system (IPM) for *Sapindus trifoliatus* of Andhra Pradesh" was approved by DG, ICFRE to be started from January 2016. The lists of ongoing projects, change request (excluding RFRI, Jorhat) and new projects (excluding that of RFRI, Jorhat) are given in Annexure-I to IX institute-wise. The list of ICFRE projects that will be culminating in 2015-16 (excluding 'Change request' of RFRI, Jorhat) is given as Annexure-X. The program of review meeting is annexed at Appendix-II.

During the course of review meeting Dr. G.S. Goraya reiterated ICFRE's need to switch over to program mode and develop long term research programs for better delivery of research outputs. These programs may be multi-disciplinary with clear cut objectives, time line, and budgetary needs with defined line of command for effective implementation. Directors of the Institutes came up with many suggestions for formulating long-term multidisciplinary programs. Their effort was commended by the DG, ICFRE. He, however, requested them to work on further refining these programs, and develop phased projects under these programs.

While reviewing the extension activities of ICFRE and its Institutes, Shri Saibal Dasgupta, DDG (Extension) informed the house that –

- ICFRE Institutes have established 26 Van Vigyan Kendras (VVKs) and Demo Villages (DVs). For establishing a VVK at Mahilong Ranchi, IFP Ranchi has signed MoU with Jharkhand SFD.
- DDG (Extension) has stressed the need for networking of VVKs with KVKs of ICAR. Till now six Institutes i.e. FRI, IWST, IFGTB, HFRI, AFRI and RFRI have initiated some activities in this front and requested other three Institutes to take up the issue of networking.
- DDG (Extn.) also informed that guidelines for organizing Tree Growers Mela (TGM) have been circulated. He emphasized the need to collaborate with other department for conducting the melas.
- Intellectual Property Management Policy (IPMP) of ICFRE has been evolved and is placed on the ICFRE web site.
- DDG (Extn.) stressed the need to open VVKs in North-East and requested Director RFRI to open VVKs in Meghalaya, Manipur and Sikkim also.

Dr. Ashwani Kumar, DG, ICFRE-cum-Chairman of RPC in his closing remarks, thanked the Directors, DDGs, for their valuable contributions. Efforts of Dr. G.S. Goraya, DDG (Research) and Dr. Vimal Kothiyal, ADG (RP) along with support team comprising of Dr. Shamila, Scientist F, RP Division and staff were appreciated for effectively organizing the meeting.

Approved

Approved by Director General, ICFRE (Chairman, RPC) at N/29 of the file No. 3-10/2013/ICFRE(R)/RP/Vol. V on 5<sup>th</sup> April 2016

## Total Budgetary Outlay for the Approved ICFRE Funded Projects

**Table 1a: Ongoing projects for the year 2016-17.**

| Institutes              | Total No. of projects presented |                                    | No. of projects completed in 2015-16 | Total no. of projects approved for continuation |                                    |
|-------------------------|---------------------------------|------------------------------------|--------------------------------------|---|------------------------------------|
|                         | No. of Projects                 | Total Budget Outlay (Rs. In lakhs) |                                      | No. of Projects                                 | Total Budget Outlay (Rs. In lakhs) |
| AFRI, Jodhpur           | 11                              | 329.10                             | 6                                    | 5   | 273.47                             |
| FRI, Dehradun           | 22                              | 1029.22                            | 11                                   | 11  | 928.64                             |
| HFRI, Shimla            | 6                               | 95.56                              | 4                                    | 2   | 35.25                              |
| IFB, Hyderabad          | 4                               | 78.61                              | 1                                    | 3   | 52.48                              |
| IFGTB, Coimbatore       | 21                              | 426.11                             | 8                                    | 13  | 287.30                             |
| IFP, Ranchi             | 4                               | 117.34                             | 2                                    | 2   | 67.50                              |
| IWST, Bengaluru         | 14                              | 218.39                             | 6                                    | 8   | 177.95                             |
| TFRI, Jabalpur          | 11                              | 487.32                             | 6                                    | 5   | 451.35                             |
| <b>Sub Total</b>        | <b>93</b>                       | <b>2781.65</b>                     | <b>44</b>                            | <b>49</b>                                       | <b>2273.94</b>                     |
| RFRI, Jorhat            | 29                              | 553.482                            | **                                   | 15 <sup>CR</sup>                                | 330.384 <sup>CR</sup>              |
| <b>Total (Rs lakhs)</b> | <b>(122 -1*)=121</b>            | <b>3335.132</b>                    | <b>**</b>                            | <b>64<sup>CR</sup></b>                          | <b>2604.324<sup>CR</sup></b>       |

\*Duplicacy of one project of RFRI, Jorhat corrected. \*\*The figure will be added after the RAG meeting of RFRI, Jorhat. CR- Change request projects of RFRI Jorhat will be added

**Table 1b: New approved projects of XVI RPC 2015 to be started in 2016-17 with ICFRE funding.**

| ICFRE Institutes        | Total no. of projects presented in XVI RPC 2015 |                                    |
|-------------------------|---|------------------------------------|
|                         | No. of projects                                 | Total budget outlay (Rs. In lakhs) |
| AFRI, Jodhpur           | 11  | 165.03                             |
| FRI, Dehradun           | 17  | 226.72                             |
| HFRI, Shimla            | 8   | 133.79                             |
| IFB, Hyderabad          | 3   | 68.27                              |
| IFGTB, Coimbatore       | 17  | 274.07                             |
| IFP, Ranchi             | 6   | 64.26                              |
| IWST, Bengaluru         | 11  | 132.80                             |
| TFRI, Jabalpur          | 7   | 70.20                              |
| <b>Sub Total</b>        | <b>80</b>                                       | <b>1135.14</b>                     |
| RFRI, Jorhat*           | -   | -                                  |
| <b>Total (Rs lakhs)</b> | <b>80</b>                                       | <b>1135.14</b>                     |

\*Projects of RFRI, Jorhat approved by XVI RPC 2015 were started in 2015-16 and have been counted in ongoing projects. The RAG of RFRI, Jorhat for approving new projects for 2016-17 will be held on 10th & 11th March, 2016. The projects approved in the RAG meeting will be taken up as new projects for 2016-2017.

**Table 1c: Total budgetary requirement of ICFRE funded projects for 2016-17.**

| S. No.           | Project type   | Total no. of projects approved | Total budget required for 2016-2017 (Rs in crores) |                              |                              |
|------------------|--|--------------------------------|--|------------------------------|------------------------------|
|                  |  |                                | NE component                                       | General budget               | Total                        |
| 1                | Ongoing Projects for the year 2016-17  | 64 <sup>CR</sup>               | 69.86 <sup>CR</sup>                                | 291.118                      | 360.978 <sup>CR</sup>        |
| 2                | New Projects Approved by XVI RPC 2015 to be started in 2016-17                         | 80*                            | *  | 342.256                      | 342.256*                     |
| 3                | Budget requirement of miscellaneous research activities (other than research projects) | -                              | 65.00  | 775.50                       | 840.50                       |
| <b>G. Total:</b> |  | <b>144<sup>CR</sup></b>        | <b>134.86<sup>CR</sup></b>                         | <b>1408.874<sup>CR</sup></b> | <b>1543.734<sup>CR</sup></b> |

\*Projects of RFRI, Jorhat approved by XVI RPC 2015 were started in 2015-16 and have been counted in ongoing projects. The RAG of RFRI, Jorhat for approving new projects for 2016-17 will be held on 10th & 11th March, 2016. The projects approved in the RAG meeting will be taken up as new projects for 2016-2017.

**CR- Change request projects of RFRI Jorhat will be added**

### Budgetary requirement for the approved ICFRE funded projects for the year 2016-17

**Table 2a: Budgetary requirements for ongoing research projects for 2016-17.**

| Institute           | Sub head wise budgetary requirement (Rs in lakhs) for 2016-17 for ongoing projects |                            |                                |                                 |                            |                             |
|---------------------|--|----------------------------|--------------------------------|---------------------------------|----------------------------|-----------------------------|
|                     | Consumables (M&S)  | Research expenditure (FRE) | Travel And conveyance (Res)-TE | Capital (Scientific Equipments) | Fellowship                 | Total                       |
| AFRI, Jodhpur       | 5.24   | 6.34                       | 2.9                            | 0.8                             | 3.96                       | 19.24                       |
| FRI, Dehradun       | 14.40  | 42.70                      | 4.84                           | 41.00                           | 17.40                      | 120.34                      |
| HFRI, Shimla        | 0.15   | 2.50                       | 0.70                           | --                              | 1.830                      | 5.18                        |
| IFB, Hyderabad      | 1.19   | 3.87                       | 2.99                           | 0.80                            | 6.12                       | 14.97                       |
| IFGTB, Coimbatore   | 12.6   | 16.85                      | 10.75                          | 3.8                             | 18.77                      | 61.02                       |
| IFP, Ranchi         | 4.50   | 2.50                       | 1.50                           | 0.00                            | 2.856                      | 11.356                      |
| IWST, Bengaluru     | 8.55   | 1.72                       | 1.82                           | 0                               | 7.662                      | 19.852                      |
| TFRI, Jabalpur      | 8.95   | 11.4                       | 11.25                          | -                               | 7.56                       | 39.16                       |
| <b>Total:</b>       | <b>55.58</b>   | <b>87.88</b>               | <b>36.75</b>                   | <b>46.4</b>                     | <b>66.158</b>              | <b>291.118</b>              |
| RFRI, Jorhat*       | 14.97 <sup>CR</sup>  | 15.30 <sup>CR</sup>        | 15.68 <sup>CR</sup>            | 3.90 <sup>CR</sup>              | 20.01 <sup>CR</sup>        | 69.86 <sup>CR</sup>         |
| <b>Grand Total:</b> | <b>70.55<sup>CR</sup></b>  | <b>103.18<sup>CR</sup></b> | <b>52.43<sup>CR</sup></b>      | <b>50.30<sup>CR</sup></b>       | <b>86.168<sup>CR</sup></b> | <b>360.978<sup>CR</sup></b> |

\*Figure of RFRI, Jorhat will be added after receipt of RAG proceedings of RFRI, Jorhat.

**CR- Change request projects of RFRI Jorhat will be added**



**Table 2b: Budgetary requirements for approved research projects by XVI RPC 2015 to be started in 2016-17.**

| Institutes          | Sub head wise budgetry requirement (Rs. in lakhs) for 2015-16 for new projects |                            |                                |                                 |               |                |
|---------------------|--|----------------------------|--------------------------------|---------------------------------|---------------|----------------|
|                     | Consumables (M&S)  | Research expenditure (FRE) | Travel And conveyance (Res)-TE | Capital (Scientific Equipments) | Fellowship    | Total          |
| AFRI, Jodhpur       | 11.05  | 11.09                      | 5.80                           | 20.49                           | 14.79         | 63.22          |
| FRI, Dehradun       | 9.6  | 19.75                      | 5.4                            | 12.2                            | 21.08         | 68.03          |
| HFRI, Shimla        | 3.05   | 8.74                       | 7.9                            | 3.8                             | 8.148         | 31.638         |
| IFB, Hyderabad      | 3.4  | 2.39                       | 2.1                            | 6.51                            | 6.218         | 20.618         |
| IFGTB, Coimbatore   | 8.2  | 14.03                      | 8.7                            | 10.2                            | 17.88         | 59.01          |
| IFP, Ranchi         | 6.63   | 4.55                       | 3.75                           | 0.46                            | 5.23          | 20.62          |
| IWST, Bengaluru     | 8.7  | 10.35                      | 4.35                           | 23.8                            | 12.42         | 59.62          |
| TFRI, Jabalpur      | 2.95   | 4.52                       | 4.2                            | 0.75                            | 7.08          | 19.5           |
| <b>Sub Total:</b>   | <b>53.58</b>   | <b>75.42</b>               | <b>42.2</b>                    | <b>78.21</b>                    | <b>92.846</b> | <b>342.256</b> |
| RFRI, Jorhat*       | -  | -                          | -                              | -                               | -             | -              |
| <b>Grand Total:</b> | <b>53.58</b>   | <b>75.42</b>               | <b>42.2</b>                    | <b>78.21</b>                    | <b>92.846</b> | <b>342.256</b> |

\*Projects of RFRI, Jorhat approved by XVI RPC 2015 were started in 2015-16 and have been counted in ongoing projects. The RAG of RFRI, Jorhat for approving new projects for 2016-17 will be held on 10th & 11th March, 2016. The projects approved in the RAG meeting will be taken up as new projects for 2016-2017.

**Table 2c: Total budgetary requirement for ICFRE funded projects for 2016-17.**

| Institutes                       | Sub Head wise total budgetary requirement (Rs in lakhs) for 2016-17 |                            |                                |                                 |                     |                     |
|----------------------------------|---|----------------------------|--------------------------------|---------------------------------|---------------------|---------------------|
|                                  | Consumables (M&S)   | Research expenditure (FRE) | Travel And conveyance (Res)-TE | Capital (Scientific Equipments) | Fellowship          | Total               |
| Ongoing project                  | 55.58   | 87.88                      | 36.75                          | 46.40                           | 66.158              | 291.118             |
| New Projects                     | 53.58   | 75.42                      | 42.2                           | 78.21                           | 92.846              | 342.256             |
| <b>Sub Total 1</b>               | <b>109.16</b>   | <b>163.3</b>               | <b>78.95</b>                   | <b>124.61</b>                   | <b>159.004</b>      | <b>633.374</b>      |
| <b>North East (RFRI, Jorhat)</b> |   |                            |                                |                                 |                     |                     |
| Ongoing projects                 | 14.97 <sup>CR</sup>   | 15.30 <sup>CR</sup>        | 15.68 <sup>CR</sup>            | 3.90 <sup>CR</sup>              | 20.01 <sup>CR</sup> | 69.86 <sup>CR</sup> |
| New Projects*                    | -   | -                          | -                              | -                               | -                   | -                   |
| <b>Sub Total 2</b>               |   |                            |                                |                                 |                     |                     |
| <b>Grand Total (1+2)</b>         |   |                            |                                |                                 |                     |                     |

\*Projects of RFRI, Jorhat approved by XVI RPC 2015 were started in 2015-16 and have been counted in ongoing projects. The RAG of RFRI, Jorhat for approving new projects for 2016-17 will be held on 10th & 11th March, 2016. The projects approved in the RAG meeting will be taken up as new projects for 2016-2017.

**CR- Change request projects of RFRI Jorhat will be added**

**Table 3: Budget requirement for miscellaneous research activities (for other than research projects) for 2016-17.**

| S. No.             | Institutes                             | Consumables (M & S) | Research Expenditure (FRE) | Travel and Conveyance (Res – TE) | Capital (Scientific Equipments) | Maintenance of Scientific Equipments | RAG/ RPC Meetings | Total (Rs. in lakh) |
|--------------------|--|---------------------|----------------------------|----------------------------------|---------------------------------|--------------------------------------|-------------------|---------------------|
| 1                  | AFRI, Jodhpur                          | 16.50               | 11.25                      | 1.70                             | 43.50                           | 10.00                                | 1.00              | <b>138.95</b>       |
| 2                  | FRI, Dehradun (including CSFER Centre) | 29.10               | 127.12*                    | 11.65                            | 107.20**                        | 38.21                                | 1.75              | <b>315.03</b>       |
| 3                  | HFRI, Shimla                           | 3.50                | 8.00                       | 2.00                             | 4.00                            | 4.50                                 | 1.25              | <b>23.25</b>        |
| 4                  | IFB, Hyderabad                         | 0.50                | 4.00                       | 2.00                             | -                               | 1.00                                 | 0.50              | <b>8.00</b>         |
| 5                  | IFP, Ranchi                            | 6.00                | 4.50                       | 2.00                             | 19.50                           | 16.50                                | 1.50              | <b>50.00</b>        |
| 6                  | IFGTB, Coimbatore                      | 5.00                | 36.36                      | 6.00                             | 16.95                           | 10.10                                | 2.00              | <b>57.00</b>        |
| 7                  | IWST, Bengaluru                        | 4.26                | 24.95                      | 2.01                             | 67.00                           | 9.75                                 | 2.00              | <b>109.97</b>       |
| 8                  | TFRI, Jabalpur                         | 9.55                | 19.20                      | 4.55                             | 13.50                           | 9.25                                 | 2.25              | <b>58.30</b>        |
| 9                  | ICFRE (Hqrs)                           | 0.75                | 6.00                       | 4.50                             | -                               | 0.75                                 | 3.00              | <b>15.00</b>        |
| <b>Sub Total A</b> |  | <b>75.16</b>        | <b>241.38</b>              | <b>36.41</b>                     | <b>271.65</b>                   | <b>100.06</b>                        | <b>15.25</b>      | <b>775.5</b>        |
| 10                 | RFRI, Jorhat (including its centres)   | 30.00               | 20.00                      | 10.00                            | -                               | 4.00                                 | 1.00              | <b>65.00</b>        |
| <b>Sub Total B</b> |  | <b>30.00</b>        | <b>20.00</b>               | <b>10.00</b>                     | <b>-</b>                        | <b>4.00</b>                          | <b>1.00</b>       | <b>65.00</b>        |
| <b>Total (A+B)</b> |  | <b>105.16</b>       | <b>261.38</b>              | <b>46.41</b>                     | <b>271.65</b>                   | <b>104.06</b>                        | <b>16.25</b>      | <b>840.5</b>        |

**Note 1:** Miscellaneous Research Activities include activities such as (a) maintenance of nurseries, old field trials, plantations, research plots, seed banks, field stations, etc. (b) maintenance of scientific equipment and laboratories, (c) patent fees, (d) implementation of estate working plans, (e) addressing research needs of emergent nature (insect attacks, diseases, fires), etc.

FRI: \*under FRE includes salary of contractual staff engaged in research divisions; \*\*under capital includes budget requirement for new projects.

IFGTB: IFGTB submitted 10 years Action Plan for FGRMN with a budget outlay of Rs. 27 crore to ICFRE in July 2014. To carry out FGRMN activities separate budget of Rs. 55 lakhs (M&S-7.00; FRE-20.00; TE-6.00; Capital-20.00; Maintenance of Equipments-2.00) is needed for the year 2016-2017. (It includes research activities, research fellow salary, maintenance of nurseries, establishment of field gene bank, purchase of equipments and travel).

## Arid Forest Research Institute, Jodhpur

## A. ONGOING PROJECTS (OG):

| S. No.   | Project title/PI/Duration (Start and end year)  | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016) |
|--|---|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|---|--|
|  |   |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |   |  |
|  |   |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |   |  |
| <b>1</b>   | <b>2</b>  | <b>3</b>                          | <b>4</b>   | <b>5</b>  | <b>6</b>                          | <b>7</b>                   | <b>8</b>                       | <b>9</b>                        | <b>10</b>   | <b>11</b>                                   | <b>12</b>                                |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>OG-1</b>  | Enhancing fodder productivity through silvipastoral systems on degraded land of India. PI: Dr. Ranjana Arya, 5 years, 2012-2017   | <b>20.5</b>                       | <b>6.20</b>  | <b>3.99</b>   | <b>1.15</b>                       | <b>1.60</b>                | <b>0.40</b>                    | <b>-</b>                        | <b>0.84</b> | <b>One FA</b>                               | Approved for continuation.               |
| <b>OG-2</b>  | Quantification value addition of NTFP and improved agricultural productivity to enhance livelihood opportunity in tribal belt of Sirohi District of Rajasthan. Smt. Sangeeta Tripathi, 5 years, 2012-2017 | <b>14.83</b>                      | <b>3.20</b>  | <b>3.29</b>   | <b>0.75</b>                       | <b>0.50</b>                | <b>0.40</b>                    | <b>0.80</b>                     | <b>0.84</b> | <b>One FA</b>                               | Approved for continuation.               |
|  | <b>TOTAL</b>  | <b>35.33</b>                      | <b>9.4</b>   | <b>7.28</b>   | <b>1.9</b>                        | <b>2.1</b>                 | <b>0.8</b>                     | <b>0.8</b>                      | <b>1.68</b> | <b>2 FA</b>                                 |  |
| <b>Thrust Area II: Biodiversity Conservation and Ecological Security</b>                                 |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>OG-3</b>  | A coordinated project on integrated management of khejri mortality for socio-economic upliftment in Rajasthan. Dr. K.K. Shrivastva, 5 years, 2010-2017  | <b>99.72</b>                      | <b>46.38</b>   | <b>7.37</b>   | <b>2.19</b>                       | <b>2.44</b>                | <b>1.30</b>                    | <b>-</b>                        | <b>1.44</b> | <b>1 JRF</b>                                | Approved for continuation                |
|  | <b>TOTAL</b>  | <b>99.72</b>                      | <b>46.38</b>   | <b>7.37</b>   | <b>2.19</b>                       | <b>2.44</b>                | <b>1.30</b>                    | <b>-</b>                        | <b>1.44</b> | <b>1 JRF</b>                                |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>  |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |

**Annexure-I (AFRI)**

| <b>Thrust Area IV: Forest Genetic Resources Management and Tree Improvement:</b> |   |               |              |              |             |             |             |            |             |                    |                           |
|--|---|---------------|--------------|--------------|-------------|-------------|-------------|------------|-------------|--------------------|---------------------------|
| <b>OG-4</b>  | Assessment of variability, improvement and refinement of cloning techniques of <i>Tecomella undulata</i> (sm.). Seem /Desha Meena, 5 years, 2012-2017 | <b>52.42</b>  | <b>5.71</b>  | <b>1.40</b>  | <b>.80</b>  | <b>0.30</b> | <b>0.30</b> | <b>0</b>   | <b>0</b>    | <b>-</b>           | Approved for continuation |
| <b>OG-5</b>  | All India Coordinated Project For Genetic Improvement of <i>Melia composite</i> . Pravin H. Chawhaan, 10 years, 2013-2022                             | <b>86.00</b>  | <b>4.85</b>  | <b>3.19</b>  | <b>0.35</b> | <b>1.50</b> | <b>0.50</b> | <b>0</b>   | <b>0.84</b> | <b>1FA</b>         | Approved for continuation |
|  | <b>TOTAL</b>  | <b>138.42</b> | <b>10.56</b> | <b>4.59</b>  | <b>1.15</b> | <b>1.8</b>  | <b>0.8</b>  | <b>0</b>   | <b>0.84</b> | <b>1 FA</b>        |                           |
|  | <b>GRAND TOTAL</b>  | <b>273.47</b> | <b>66.34</b> | <b>19.24</b> | <b>5.24</b> | <b>6.34</b> | <b>2.9</b>  | <b>0.8</b> | <b>3.96</b> | <b>1 JRF, 3 FA</b> |                           |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR): NIL**

**C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

| S. No.   | Project title/PI/Duration (Start and end year) | Total budget outlay (Rs. in lakh) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |            | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016) |
|----------|--|-----------------------------------|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|------------|---|--|
|          |  |                                   | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |            |   |  |
|          |  |                                   |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship |   |  |
| <b>1</b> | <b>2</b>                                       | <b>3</b>                          | <b>4</b>  | <b>5</b>                          | <b>6</b>                   | <b>7</b>                       | <b>8</b>                        | <b>9</b>   | <b>10</b>                                   | <b>11</b>                                |

| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |   |       |      |     |      |      |      |      |       |  |  |
|---|---|-------|------|-----|------|------|------|------|-------|--|--|
| <b>NW-1</b>   | Green Synthesis of Nano particles and their Utilization. Dr. D.K. Mishra, 3 Years; 2016-19. | 10.87 | 3.99 | 1.2 | 1.00 | 0.25 | 0.10 | 1.44 | 1 JRF | Approved. Assess Punjab Agricultural Univ.'s (PAU) lab strength for possible collaboration |  |

**Annexure-I (AFRI)**

|   |   |              |              |             |             |             |             |             |                    |   |
|---|---|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------------|---|
| <b>NW-2</b>   | Studies on Seed Germination and Nursery Technology of <i>Anogeissus pendula</i> . S.L. Meena, 3 Years, 2016-19.   | 11.66        | 3.83         | 0.4         | 1.29        | 0.8         | 0.50        | 0.84        | 1 FA               | Approved.<br>Modify objectives to include selection of high yielding germplasm and its multiplication |
| <b>NW-3</b>   | Integrated pest and disease management (IPDM) of important tree species in nurseries of Rajasthan. Seema Kumar, 5 years, 2016-2021.   | 20.16        | 5.04         | 0.4         | 0.5         | 0.4         | 1.94        | 1.8         | I JRF, 1 FA        | Approved  |
| <b>NW-4</b>   | Selection of efficient AM fungi, PSBs and <i>Azospirillum</i> for productivity enhancement of <i>Dendrocalamus strictus</i> & <i>Bambusa bambos</i> . Dr. K.K. Srivastava, 4 years, 2016-2020.                              | 15.35        | 5.4          | 0.5         | 0.4         | 0.75        | 2.05        | 1.7         | 1 JRF              | Approved  |
| <b>NW-5</b>   | Rehabilitation of salt affected soil with amendments of biofertilizer (AM Fungi). Bhawana Sharma, 3 Year, 2016-2019.  | 9.92         | 3.14         | 0.6         | 1.00        | 0.5         | 0.2         | 0.84        | 1 FA               | Approved  |
|   | <b>TOTAL</b>  | <b>67.96</b> | <b>21.4</b>  | <b>3.10</b> | <b>4.19</b> | <b>2.70</b> | <b>4.79</b> | <b>6.62</b> | <b>3 JRF, 3 FA</b> |   |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b> |   |              |              |             |             |             |             |             |                    |   |
| <b>NW-6</b>   | Diversity of pollinators and their role in fruit/ pod production of <i>Acacia senegal</i> , <i>Capparis decidua</i> and <i>Prosopis cineraria</i> (Tricuta) in Rajasthan, PI: Shiwani Bhatnagar, Duration: 3years, 2016-19. | 19.53        | 8.38         | 1.00        | 1.70        | 1.00        | 2.95        | 1.73        | 1 JRF              | Approved  |
| <b>NW-7</b>   | Survey, evaluation and management of important insect-pests and diseases of <i>Anogeissus pendula</i> , Dr Shiwani Bhatnagar, 3 years, 2016-2019.   | 18.81        | 8.28         | 2.00        | 1.70        | 1.00        | 2.95        | 0.63        | 1 FA               | Approved  |
|   | <b>TOTAL</b>  | <b>38.34</b> | <b>16.66</b> | <b>3.00</b> | <b>3.40</b> | <b>2.00</b> | <b>5.90</b> | <b>2.36</b> | <b>1 JRF, 1FA</b>  |   |
| <b>Thrust Area III: Forests and climate change: NIL</b>                       |   |              |              |             |             |             |             |             |                    |   |

**Annexure-I (AFRI)**

| <b>Thrust Area IV: Forest Genetic Resources Management and Tree Improvement:</b> |  |               |              |              |              |            |              |              |                    |   |
|--|--|---------------|--------------|--------------|--------------|------------|--------------|--------------|--------------------|---|
| <b>NW-8</b>  | Screening of DNA Markers to Distinguish Male and Female <i>Ailanthus excelsa</i> Trees for Higher Biomass Production. Dr. U.K. Tomar, 3 Years, 2016-2019.              | 16.00         | 7.08         | 2.35         | 0.5          | 0.5        | 2            | 1.73         | One JRF            | Approved. Daily wagers not allowed. Budget to be revised accordingly. |
| <b>NW-9</b>  | Development of Tissue Culture protocol for economically important Bamboo- <i>Schizostachym dullooa</i> . Dr. Sarita Arya, 3 Years, 2016-2019.                          | 9.32          | 3.64         | 0.6          | 0.3          | 0.5        | 0.8          | 1.44         | One JRF            | Approved for 3 years . Budget outlay revised to Rs. 9.32 lakhs        |
| <b>NW-10</b>   | In silico identification of abiotic stress-tolerance candidate genes using co-expression network analysis and comparative genomic. Dr. Tarun Kant, 2 Years, 2016-2018. | 1.5           | 1.00         | 0            | 0            | 0          | 1            | 0            | Nil                | Approved  |
| <b>NW-11</b>   | Identification of Juvenility Markers to Improve Rooting Potential of some Important Tree Species/Dr. Shivesh Rajput/4 Years/2016-2020.                                 | 31.91         | 13.44        | 2            | 2.7          | 0.1        | 6            | 2.64         | one JRF & one FA   | Approved  |
|  | <b>TOTAL</b>   | <b>58.73</b>  | <b>25.16</b> | <b>4.95</b>  | <b>3.5</b>   | <b>1.1</b> | <b>9.8</b>   | <b>5.81</b>  | <b>3 JRF, 1 FA</b> |   |
|  | <b>GRAND TOTAL</b>   | <b>165.03</b> | <b>63.22</b> | <b>11.05</b> | <b>11.09</b> | <b>5.8</b> | <b>20.49</b> | <b>14.79</b> | <b>7 JRF, 5 FA</b> |   |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No. | Research Projects | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |              |              | Man Power          |   |
|---------|-------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|--------------|--------------|--------------------|---|
|         |                   |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship   | Total        |                    |   |
| 1       | Ongoing Projects  | 273.47                             | 5.24  | 6.34                       | 2.9                            | 0.8                             | 3.96         | 19.24        | 1 JRF, 3 FA        | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2       | New Projects      | 165.03                             | 11.05   | 11.09                      | 5.8                            | 20.49                           | 14.79        | 63.22        | 7 JRF, 5 FA        | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|         | <b>TOTAL</b>      | <b>438.5</b>                       | <b>16.29</b>  | <b>17.43</b>               | <b>8.7</b>                     | <b>21.29</b>                    | <b>18.75</b> | <b>82.46</b> | <b>8 JRF, 8 FA</b> |   |

## Forest Research Institute, Dehradun

## A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration<br>(Start and end year)   | Total<br>budget<br>outlay<br>(Rs. in lakh) | Approx.<br>projected<br>expenditure<br>till 31 <sup>st</sup><br>March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                                  |                                       |                                       |             | Required<br>Manpower<br>(RA/SRF/<br>JRF/ PA/<br>FA etc.) | Recommendations<br>of Review Meeting<br>(2016) |
|---|---|--|--|---|-----------------------------------|----------------------------------|---------------------------------------|---------------------------------------|-------------|--|--|
|   |   |  |  | Budget<br>Requirem<br>ent for<br>2016-17                | Sub Head wise breakup for 2016-17 |                                  |                                       |                                       |             |  |  |
|   |   |  |  |   | Consumables<br>(M&S)              | Research<br>Expenditure<br>(FRE) | Travel and<br>Conveyance (Res-<br>TE) | Capital<br>(Scientific<br>Equipments) | Fellowship  |  |  |
| 1   | 2   | 3  | 4  | 5   | 6                                 | 7                                | 8                                     | 9                                     | 10          | 11   | 12   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |   |  |  |   |                                   |                                  |                                       |                                       |             |  |  |
| <b>OG-6</b>   | Studies on natural durability of plantation grown species with conventional/ eco-friendly preservatives ( <i>Melia composita</i> )<br>Dr. Sadhna Tripathi, 5 years, 2012-2017 | 8.08                                       | 5.116  | 1.20  | 0.50                              | 0.50                             | 0.20                                  | -                                     | -           | -  | Approved for continuation.                     |
| <b>OG-7</b>   | Assessment of hydrological services imparted by forest of Kemptly watershed (Mussoorie). / Dr Parmanand Kumar/ (2012-2019)<br>This project is part of a networking project    | 69.74                                      | 3.26   | 13.34   | 0.5                               | 1.7                              | 0.3                                   | 10.0                                  | 0.84        | 1 SRF  | Approved for continuation.                     |
|   | <b>Total</b>  | <b>77.82</b>                               | <b>8.376</b>   | <b>14.54</b>  | <b>1</b>                          | <b>2.2</b>                       | <b>0.5</b>                            | <b>10</b>                             | <b>0.84</b> | <b>1 SRF</b>   |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security:</b>                                 |   |  |  |   |                                   |                                  |                                       |                                       |             |  |  |
| <b>OG-8</b>   | Inventorization, characterization and conservation strategies of selected rare and endangered plant species of India. Dr. Anup Chandra, 5 years, 2012-17                      | 23.9                                       | 4.50   | 6.38  | 0.50                              | 2.50                             | 0.50                                  | -                                     | 2.88        | 1RA<br>1FA   | Approved for continuation                      |



**Annexure-II (FRI)**

|   |   |   |               |               |              |              |             |              |             |                              |                            |
|---|---|---|---------------|---------------|--------------|--------------|-------------|--------------|-------------|------------------------------|----------------------------|
| <b>OG-9</b>   | Restoration of Sand Stone Mining Area of Vindhyan Region through Microbial Technology. Dr. Kumud Dubey, 5 years, 2012-2017  | 14.00   | 7.95          | 6.00          | 0.20         | 3.20         | 0.92        | -            | 1.68        | 1 SRF                        | Approved for continuation. |
|   | <b>Total</b>  | <b>37.9</b>   | <b>12.45</b>  | <b>12.38</b>  | <b>0.7</b>   | <b>5.7</b>   | <b>1.42</b> |              | <b>4.56</b> | <b>1RA<br/>1 SRF<br/>1FA</b> |                            |
| <b>Thrust Area III: Forests and climate change: NIL</b>                         |   |   |               |               |              |              |             |              |             |                              |                            |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b> |   |   |               |               |              |              |             |              |             |                              |                            |
| <b>OG-10</b>  | AICP on genetic improvement of <i>Melia composita</i> Wild. All India project coordinator: Dr. Ashok Kumar, 2012-17<br>Total Budget Outlay of AICP: Rs. <b>719.56 lakhs</b> | Not provided by the institute for FRI (Outlay of AICP 719.56) | 30.00         | 75.00         | 10.00        | 30.00        | 2.32        | 31.00        | 1.68        | 1 SRF                        | Approved for continuation  |
|   | <b>Total</b>  | <b>-</b>  | <b>30.00</b>  | <b>75.00</b>  | <b>10.00</b> | <b>30.00</b> | <b>2.32</b> | <b>31.00</b> | <b>1.68</b> | <b>1 SRF</b>                 |                            |
|   | <b>Grand Total</b>  | <b>835.28</b>   | <b>50.826</b> | <b>101.92</b> | <b>11.7</b>  | <b>37.9</b>  | <b>4.24</b> | <b>41</b>    | <b>7.08</b> | <b>1RA<br/>3 SRF<br/>1FA</b> |                            |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR):**

| S. No.  | Project title/PI/Duration<br>(Start and end year)  | Total budget outlay<br>(Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |            | Recommendations of Review Meeting (2016)   |
|---|--|--------------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|------------|--|
|   |  |                                      |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |            |  |
|   |  |                                      |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship |  |
| 1   | 2  | 3                                    | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10         | 11   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |  |                                      |  |   |                                   |                            |                                |                                 |            |  |
| <b>OG-11<br/>CR-1</b>   | Process refinement for extraction of quality fiber and optimal isolation of bioactive constituents from <i>Agave sisalana</i> . Dr. Y.C. Tripathi, 5 years, 2011-2016( <b>Change request</b> ) | 8.40                                 | 5.46   | 1.98  | 0.50                              | 0.40                       | 0                              | 0                               | 1.08       | Approved 3 <sup>rd</sup> extension up to 2017 with provision of JRF for nine months within sanctioned budget outlay. This will be the last extension and no further extension will be given. |
| <b>OG-12<br/>CR-2</b>   | Phytochemical screening of selected wild edible plants for exploration of new sources of Luteolin. Dr. Y.C. Tripathi, 4 years, 2011-2016( <b>Change request</b> )                              | 8.65                                 | 6.15   | 1.98  | 0.50                              | 0.40                       | 0                              | 0                               | 1.08       | Approved 3 <sup>rd</sup> extension up to 2017 with provision of JRF within sanctioned budget outlay. This will be the last extension and no further extension will be given.                 |
| <b>OG-13<br/>CR-3</b>   | Structural studies and utilisation of <i>Acacia tortilis</i> gum exudates. Dr. Vineet Kumar, 3 years, 2012-2016( <b>Change request</b> )   | 4.5                                  | 2.45   | 1.50  | 0.70                              | 0.60                       | 0.20                           | -                               | -          | Approved 2 <sup>nd</sup> extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given.                                       |
| <b>OG-14<br/>CR-4</b>   | Utilisation of <i>Pinus roxburghii</i> needles for value added products. Dr. Vineet Kumar, 3 years, 2012-2016( <b>Change request</b> )   | 4.50                                 | 2.08   | 2.10  | 0.70                              | 1.20                       | 0.20                           | -                               | -          | Approved 2 <sup>nd</sup> extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given.                                       |

**Annexure-II (FRI)**

|   |   |              |              |              |            |             |            |          |              |  |
|---|---|--------------|--------------|--------------|------------|-------------|------------|----------|--------------|--|
| <b>OG-15<br/>CR-5</b>   | Prospecting fungal resources for development of natural dye .Dr. Rakesh Kumar, 3 years, 2012-2016 ( <b>Change request</b> )                 | 6.18         | 4.28         | 1.90         | 0.30       | 1.40        | 0.20       | -        | -            | Approved 2 <sup>nd</sup> extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given. |
|   | <b>TOTAL</b>  | <b>32.23</b> | <b>20.42</b> | <b>9.46</b>  | <b>2.7</b> | <b>4</b>    | <b>0.6</b> | <b>0</b> | <b>2.16</b>  |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security:</b>             |   |              |              |              |            |             |            |          |              |  |
| <b>OG-16<br/>CR-6</b>   | Digitization of herbarium (Dehradun Herbarium) of Forest Research Institute. Ms. Ranjana Negi, 8 years, 2008-2016 ( <b>Change request</b> ) | 61.13        | 48.60        | 8.66         | -          | 0.50        | -          | -        | 8.16         | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given.        |
|   | <b>TOTAL</b>  | <b>61.13</b> | <b>48.60</b> | <b>8.66</b>  | <b>-</b>   | <b>0.50</b> | <b>-</b>   | <b>-</b> | <b>8.16</b>  |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>                               |   |              |              |              |            |             |            |          |              |  |
| <b>Thrust Area IV: Forest Genetic Resources Management and Tree Improvement : Nil</b> |   |              |              |              |            |             |            |          |              |  |
|   | <b>GRAND TOTAL</b>  | <b>93.36</b> | <b>69.02</b> | <b>18.12</b> | <b>2.7</b> | <b>4.5</b>  | <b>0.6</b> | <b>0</b> | <b>10.32</b> |  |

**C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

| S.no. | Project title/PI/Durati on   | Total Cost of the Project (Rs. in Lakhs) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |            | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016)                        |
|-------|--|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|------------|---|---|
|       |  |  | Budget requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |            |   |   |
|       |  |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship |   |   |
| 1     | 2  | 3  | 4   | 5                                 | 6                          | 7                              | 8                               | 9          | 10  | 11  |
| NW-12 | Preparation and applications of cationized nano-cellulosic strength agents for paper making/PI: Dr. Vikas Rana/Duration: 3 Years, 2016-2019. | 12.47                                    | 7.79  | 0.50                              | 0.15                       | 0.00                           | 5.70                            | 1.44       | One JRF                                     | Approved. PI to explore external funding from Industry/ others. |
| NW-13 | Value addition and Utilization of <i>Cassia tora</i> seeds / PI- Dr. Pradeep Sharma/ 3 Years, 2016-  | 12.21                                    | 4.58  | 1.00                              | 0.95                       | 0.05                           | 1.50                            | 1.08       | One JRF                                     | Approved.   |

**Annexure-II (FRI)**

|              |   |              |              |            |             |             |            |             |  |  |
|--------------|---|--------------|--------------|------------|-------------|-------------|------------|-------------|--|--|
|              | 2019.   |              |              |            |             |             |            |             |  |  |
| <b>NW-14</b> | Assessment of suitable clones of Eucalyptus for promotion of agro forestry in Eastern U P. /Dr Anubha Srivastav, 5 years, 2016-2021.                        | 8.43         | 2.13         | -          | 1.30        | 0.20        | --         | 0.63        | One FA   | Approved with modification i.e. take Eucalyptus species known to be suitable for northern india, and follow species-level trials with clonal trials. Resubmit project for final approval by chairman RPC after suggested modifications.. |
| <b>NW-15</b> | Production of reducing sugars through pre-treatment of lignocellulosic biomass for bioethanol./Dr. P. K. Gupta, 3 years, 2016-2019.                         | 8.84         | 2.48         | 0.40       | 0.25        | 0.10        | nil        | 1.73        | One JRF  | Approved   |
| <b>NW-16</b> | Chemical examination and value addition of edible mushroom <i>Astraeus hygrometricus</i> . Dr. V K Varshney, 3 years, 2016-2019.                            | 6.66         | 2.08         | 1.00       | 0.25        | 0.20        | 0          | 0.63        | One PA   | Approved.  |
| <b>NW-17</b> | Use of near infrared spectroscopy for rapid evaluation of physical and strength properties of <i>Melia composita</i> . Dr. Y. M. Dubey, 2 Years, 2016-2018. | 5.70         | 1.85         | 0.10       | 1.60        | 0.15        | -          | -           | -  | Approved. Project period reduced to two years. PI to recast the project accordingly & submit recasted project to Chairman RPC.   |
| <b>NW-18</b> | Effect of different adhesives on the bending strength of finger jointed Eucalyptus sections. Dr. Kishan Kumar, 3 years, 2016-2019.                          | 14.08        | 3.28         | 0.50       | 1.45        | 0.25        | 0.00       | 1.08        | One JRF  | Approved   |
| <b>NW-19</b> | New Forest Handicraft Extension counter at FRI. Dr. K.P. Singh, 2 years, 2016-2018.   | 6.60         | 3.60         | -          | 0.60        | -           | -          | 3.0         | One skilled worker                               | Approved. Shift from under research to Extension Directorate.  |
|              | <b>Total</b>  | <b>74.99</b> | <b>27.79</b> | <b>3.5</b> | <b>6.55</b> | <b>0.95</b> | <b>7.2</b> | <b>9.59</b> | <b>4 JRF,<br/>2 PA,<br/>1 skilled<br/>worker</b> |  |

**Annexure-II (FRI)**

| <b>Thrust area II: Biodiversity conservation and ecological security</b>       |  |               |             |             |             |             |             |             |                          |  |
|--|--|---------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------|--|
| <b>NW-20</b>   | Development and extension of Trichoderma spp. based formulation for disease biocontrol and plant growth promotion of eucalypts seedlings. Dr. Amit Pandey, 3 years, 2016-2019. | 11.56         | 3.14        | 0.50        | 0.90        | 0.30        | 0           | 1.44        | One JRF                  | Approved at reduced budget outlay of Rs. 11.56 lakhs (FA not approved).  |
| <b>Total</b>   |  | <b>11.56</b>  | <b>3.14</b> | <b>0.50</b> | <b>0.90</b> | <b>0.30</b> | <b>0.00</b> | <b>1.44</b> | <b>1 JRF</b>             |  |
| <b>Thrust area III- Forest and Climate Change</b>                              |  |               |             |             |             |             |             |             |                          |  |
| <b>NW-21</b>   | Compilation of biomass studies from various sources and development of BEF and R:S from the available data. Dr. Laxmi Rawat, 2 years, 2016-2018.                               | 2.88          | 1.44        | -           | 0.40        | 0.20        | -           | 0.84        | One FA/computer operator | Approved in principle. Recast the project by specifying the species to be worked upon and resubmit                         |
| <b>NW-22</b>   | Analysis of climatic data of New Forest for working out changing trends of various climatic variables over recent past. Dr. Laxmi Rawat, 2 years, 2016-2018.                   | 2.88          | 1.44        | -           | 0.40        | 0.20        | -           | 0.84        | 1 FA/computer operator   | Approved   |
| <b>NW-23</b>   | Study on adaptive response of plants to elevated CO <sub>2</sub> conditions. Dr. Hukum Singh, 3 Years, 2016-2019.  | 20.322        | 4.44        | 1.5         | 1.0         | 0.5         | 0           | 1.44        | One JRF                  | Approved minus equipment. Total budget revised to Rs 20.32 lakhs and first year budget to Rs 4.44 lakhs                    |
| <b>Total</b>   |  | <b>26.082</b> | <b>7.32</b> | <b>1.5</b>  | <b>1.8</b>  | <b>0.9</b>  | <b>0.00</b> | <b>3.12</b> | <b>1 JRF, 2 FA</b>       |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement</b> |  |               |             |             |             |             |             |             |                          |  |
| <b>NW-24</b>   | Selection of superior quality germplasm of <i>Oroxylum indicum</i> - an endangered species. Dr.B.P Tamta, 3 Years, 2016-2019.  | 11.46         | 3.88        | 0.50        | 1.50        | 0.80        | -           | 1.08        | One JRF                  | Approved   |
| <b>NW-25</b>   | Clonal propagation of newly developed superior hybrids/genotypes of Eucalypts and their deployment in the field  | 18.78         | 6.26        | 00          | 3.5         | 0.6         | 00          | 2.16        | 2 FAs                    | Approved in principle. Recast the project for five years as seed origin progeny needs more time for observations to select |

**Annexure-II (FRI)**

|              |  |                |              |             |              |             |             |              |  |   |
|--------------|--|----------------|--------------|-------------|--------------|-------------|-------------|--------------|--|---|
|              | (Phase-III), Dr. Parveen<br>5 Year, 2016-2021.   |                |              |             |              |             |             |              |  | the best performers. The progeny at present is young for such observations.   |
| <b>NW-26</b> | Field evaluation of recombinants emanating from F <sub>1</sub> and F <sub>2</sub> generations of <i>Corymbia citriodora</i> (Syn. <i>Eucalyptus citriodora</i> ) Hook. × <i>C. torelliana</i> (Syn. <i>Eucalyptus torelliana</i> ) F.v. Muell for high productivity (Follow Project Dr. Ajay Thakur, 6 Year, 2016-2022). | 18.75          | 1.76         | 0.10        | 0.80         | 0.05        | 00          | 0.81         | One FA   | Approved.<br>The PI to specify the rotation age & use for which evaluation is being made viz. for timber, pulp, veneer. |
| <b>NW-27</b> | Genetic diversity and adaptability through morphological and molecular markers in <i>Dalbergia sissoo</i> Roxb. Dr. Ashok Kumar, 3 Years, 2016-2019.   | 24.86          | 11.54        | 2.50        | 2.00         | 0.60        | 5.00        | 1.44         | One JRF  | Approved.<br>PI to establish sexual behaviour (self/ cross pollination). Co-dominant markers.                           |
| <b>NW-28</b> | Selection and genetic evaluation of <i>Ailanthus excelsa</i> germplasm in Northern India Dr. Rama Kant, 4 Years, 2016-2020.  | 40.24          | 07.14        | 1.00        | 2.70         | 1.20        | 0           | 1.44         | One JRF  | Approved minus capital. Re-look and revise budget of Rs 40.24   |
|              | <b>TOTAL</b>   | <b>114.09</b>  | <b>30.58</b> | <b>4.10</b> | <b>10.5</b>  | <b>3.25</b> | <b>5.00</b> | <b>6.93</b>  | <b>3 JRF,<br/>3FA</b>                                    |   |
|              | <b>GRAND TOTAL</b>   | <b>226.722</b> | <b>68.83</b> | <b>9.6</b>  | <b>19.75</b> | <b>5.4</b>  | <b>12.2</b> | <b>21.08</b> | <b>9 JRF<br/>5 FA<br/>2 PA,<br/>1 skilled<br/>worker</b> |   |

**D. Budget Summary of Ongoing and New Projects:**

| 10 | Research Projects | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |              |               | Man Power                                  |   |
|----|-------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|--------------|---------------|--|---|
|    |                   |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship   | Total         |  |   |
| 1  | Ongoing Projects  | 928.64                             | 14.40   | 42.70                      | 4.84                           | 41.00                           | 17.40        | 120.34        | 1RA<br>3 SRF<br>1FA                        | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2  | New Projects      | 226.722                            | 9.6   | 19.75                      | 5.4                            | 12.2                            | 21.08        | 68.03         | 9 JRF<br>5 FA<br>2 PA,<br>1 skilled worker | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|    | <b>TOTAL</b>      | <b>1155.362</b>                    | <b>24</b>   | <b>62.45</b>               | <b>10.24</b>                   | <b>53.2</b>                     | <b>38.48</b> | <b>188.37</b> |  |   |

## Himalayan Forest Research Institute, Shimla

## A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration (Start and end year)  | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016) |
|---|---|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|---|--|
|   |   |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |   |  |
|   |   |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |   |  |
| 1   | 2   | 3                                 | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10          | 11  | 12                                       |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>OG-17</b>  | Determination of nursery requirements and initial planting performance of <i>Diploknema butyracea</i> (Roxb.) H. J. Lam and <i>Myrica esculenta</i> Buch. Ham. under mid-hill conditions of Himachal Himalayas. Dr Sandeep Sharma, 5 years, 2012-2017 | 15.50                             | 7.92   | 3.29  | 0.05                              | 2.05                       | 0.35                           | -                               | 0.84        | FA: 1 no.                                   | Approved for continuation.               |
| <b>OG-18</b>  | Status, Survey and Mapping of Ashtavarga Group of Medicinal and Aromatic Plants (MAPs) in Himachal Pradesh. Dr Vaneet Jishtu, 5 years, 2012-2017  | 19.75                             | 7.20   | 1.89  | 0.10                              | 0.45                       | 0.35                           | -                               | 0.99        | PA: 1no.                                    | Approved for continuation.               |
|   | <b>TOTAL</b>  | <b>35.25</b>                      | <b>15.12</b>   | <b>5.18</b>   | <b>0.15</b>                       | <b>2.5</b>                 | <b>0.7</b>                     |                                 | <b>1.83</b> | <b>1 FA<br/>1 PA</b>                        |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b>                             |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement: NIL</b>                       |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |



## B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR): NIL

## C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:

| S.no.   | Project title/PI/Duration  | Total Cost of the Project (Rs. in Lakhs) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |            | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016)   |
|---|--|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|------------|---|--|
|   |  |  | Budget requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |            |   |  |
|   |  |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship |   |  |
| 1   | 2  | 3  | 4   | 5                                 | 6                          | 7                              | 8                               | 9          | 10  | 11   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |  |  |   |                                   |                            |                                |                                 |            |   |  |
| NW-29   | Survey and evaluation of silvipastoral systems in Himachal Pradesh and its role in sustaining community livelihood. Dr. Swaranlata, 5 years, 2016-2021.                              | 25.00                                    | 5.56  | 0.70                              | 1.92                       | 1.50                           | --                              | 1.44       | JRF-01                                      | Approved. PI changed from Sh. V.P. Panwar to Dr. Swaranlata.   |
| NW-30   | Standardization of Agro-Techniques and Evaluation of Growth Parameters of <i>Juniperus polycarpus</i> C. Koch under Nursery and Filed Condition. Sh. P. S. Negi, 5 years, 2016-2021. | 19.48                                    | 2.70  | 0.25                              | 1.00                       | 0.60                           | -                               | 0.85       | PA: 1no.                                    | Approved. PI to evaluate growth parameters under both nursery and field conditions. Accordingly change in title. PI to modify the project accordingly. |
| NW-31   | Studies on changing forest insect-pests status of high altitude transitional zones and their management in Himachal Pradesh. Dr. Ranjeet Singh, 5 years, 2016-2021                   | 25.00                                    | 7.36  | 0.60                              | 0.80                       | 1.70                           | 2.10                            | 2.16       | JRF-01<br>PA-01                             | Approved.  |
| NW-32   | Ex-situ conservation and standardization of nursery and propagation methods of <i>Trillium govanianum</i> (Nag Chhatri)  | 17.30                                    | 5.87  | 0.50                              | 1.87                       | 1.95                           | 0.70                            | 0.85       | PA-01                                       | Approved.<br><b>Remark of HFRI, Shimla:</b><br>Project has also been submitted to NMPB, New  |

**Annexure-III (HFRI)**

|  |  |               |               |             |             |             |             |              |                    |   |
|--|--|---------------|---------------|-------------|-------------|-------------|-------------|--------------|--------------------|---|
|  | Wall.ex. D. Don. Sh. Jagdish Singh, 3 years, 2016-2019.  |               |               |             |             |             |             |              |                    | Delhi for funding.  |
| <b>NW-33</b>   | Analyzing impact of control burning on plant diversity and soil properties in chirpine forests. Dr. Ranjeet Kumar, 4 years, 2016-2020. | 11.00         | 2.238         | 0.30        | 0.20        | 0.55        | --          | 1.188        | JRF-01             | Approved.<br>PI to ensure that trial plots are saved from wild fire during project period.  |
|  | <b>TOTAL</b>   | <b>97.78</b>  | <b>23.728</b> | <b>2.35</b> | <b>5.79</b> | <b>6.3</b>  | <b>2.8</b>  | <b>6.488</b> | <b>3 JRF, 3 PA</b> |   |
| <b>Thrust area II- Biodiversity conservation and ecological security</b>       |  |               |               |             |             |             |             |              |                    |   |
| <b>NW-34</b>   | Ecological studies in Alpine pastures of District Shimla, Himachal Pradesh. Dr R. K. Verma, 4 years, 2016-2020.                        | 9.25          | 1.86          | 0.25        | 0.15        | 0.65        | --          | 0.81         | 1 PA               | Approved.<br>PI to study the spread of unpalatable species, especially around deras/ padoo of graziers.   |
|  | <b>TOTAL</b>   | <b>9.25</b>   | <b>1.86</b>   | <b>0.25</b> | <b>0.15</b> | <b>0.65</b> | <b>--</b>   | <b>0.81</b>  | <b>1 PA</b>        |   |
| <b>Thrust area III- Forest and Climate Change</b>                              |  |               |               |             |             |             |             |              |                    |   |
| <b>NW-35</b>   | Carbon sequestration potential of existing land use system in Lahaul Valley, Himachal Pradesh. Dr. KS Kapoor, 5 years, 2016-2021.      | 20.80         | 3.30          | 0.40        | 1.00        | 0.65        | 0.40        | 0.85         | PA-01              | Approved.<br>PI to include appropriate vulnerable site in Kangra in the project. He should also use FSI data on the subject and try to develop own carbon estimation index. |
|  | <b>TOTAL</b>   | <b>20.80</b>  | <b>3.30</b>   | <b>0.40</b> | <b>1.00</b> | <b>0.65</b> | <b>0.40</b> | <b>0.85</b>  | <b>PA-01</b>       |   |
| <b>Thrust area IV- Forest Genetic Resource Management and Tree Improvement</b> |  |               |               |             |             |             |             |              |                    |   |
| <b>NW-36</b>   | Standardization of grafting technique in <i>Cedrus deodara</i> (Roxb.) G.Don) Rajesh Sharma, 3 years 2016-2019.                        | 5.96          | 2.75          | 0.05        | 1.80        | 0.30        | 0.60        | -            | -                  | Approved  |
|  | <b>TOTAL</b>   | <b>5.96</b>   | <b>2.75</b>   | <b>0.05</b> | <b>1.80</b> | <b>0.30</b> | <b>0.60</b> | <b>-</b>     | <b>-</b>           |   |
|  | <b>GRAND TOTAL</b>   | <b>133.79</b> | <b>31.638</b> | <b>3.05</b> | <b>8.74</b> | <b>7.9</b>  | <b>3.8</b>  | <b>8.148</b> | <b>3 JRF, 5 PA</b> |   |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No. | Research Projects | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |              |               | Man Power                |   |
|---------|-------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|--------------|---------------|--------------------------|---|
|         |                   |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship   | Total         |                          |   |
| 1       | Ongoing Projects  | 35.25                              | 0.15  | 2.50                       | 0.70                           | --                              | 1.830        | 5.18          | 1 FA<br>1 PA             | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2       | New Projects      | 133.79                             | 3.05  | 8.74                       | 7.9                            | 3.8                             | 8.148        | 31.638        | 3 JRF, 5 PA              | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|         | <b>Total</b>      | <b>169.04</b>                      | <b>3.2</b>  | <b>11.24</b>               | <b>8.6</b>                     | <b>3.8</b>                      | <b>9.978</b> | <b>36.818</b> | <b>3 JRF, 1 FA, 6 PA</b> |   |

## Institute of Forest Biodiversity, Hyderabad

### A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration (Start and end year)   | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016)   |
|---|--|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|---|--|
|   |  |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |   |  |
|   |  |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |   |  |
| 1   | 2  | 3                                 | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10          | 11  | 12   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth: NIL</b> |  |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security:</b>                                     |  |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>OG-19</b>  | Ecological diversity of Kawal tiger reserve in Andhra Pradesh-A bench mark study. Mr M B Honnuri, 4 years, 2013-2017   | <b>24.70</b><br><b>13.32</b>      | <b>5.50</b>  | <b>6.66</b>   | <b>0.79</b>                       | <b>1.88</b>                | <b>1.15</b>                    | <b>0.80</b>                     | <b>2.04</b> | <b>2PA</b>                                  | Approved for continuation. Total budget outlay reduced to Rs. 13.32 lakhs from Rs. 24.70 lakhs.  |
| <b>OG-20</b>  | Natural regeneration studies of important tree species of Nallamalais, Seshachalam hills and Kaundinya Wildlife sanctuary of Eastern Ghats of Andhra Pradesh. Mr M B Honnuri, 5 years, 2013-2018 | <b>27.08</b>                      | <b>5.25</b>  | <b>5.59</b>   | <b>0.00</b>                       | <b>1.19</b>                | <b>1.34</b>                    | <b>0.00</b>                     | <b>3.06</b> | <b>3 PA</b>                                 | Approved for continuation.   |
| <b>OG-21</b>  | Development of integrated pest management system (IPM) for <i>Sapindus trifoliatus</i> of Andhra Pradesh. Dr. Deepa M, 3 years, Jan 2016- Dec.2018   | 12.08                             | --   | 2.72  | 0.40                              | 0.80                       | 0.50                           | -                               | 1.02        | 1PA   | Approved in the review meeting for initiation of the project from ICFRE funding from Jan. 2016. The project has been allowed to be started with ICFRE Plan Fund. |
| <b>TOTAL</b>  |  | <b>52.48</b>                      | <b>10.75</b>   | <b>14.97</b>  | <b>1.19</b>                       | <b>3.87</b>                | <b>2.99</b>                    | <b>0.80</b>                     | <b>6.12</b> | <b>6PA</b>                                  |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |  |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement: NIL</b>                           |  |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>GRAND TOTAL</b>  |  | <b>52.48</b>                      | <b>10.75</b>   | <b>14.97</b>  | <b>1.19</b>                       | <b>3.87</b>                | <b>2.99</b>                    | <b>0.80</b>                     | <b>6.12</b> | <b>6PA</b>                                  |  |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR): NIL****C. NEW PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

| S. No.  | Project title/PI/Duration<br>(Start and end year)   | Total budget<br>outlay<br>(Rs. in lakh) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                               |                                 |                                    | Required<br>Manpower<br>(RA/SRF/<br>JRF/ PA/<br>FA etc.) | Recommendations<br>of Review Meeting<br>(2016) |  |
|---|---|---|---|-----------------------------------|-------------------------------|---------------------------------|------------------------------------|--|--|--|
|   |   |   | Budget<br>Requirement<br>for 2016-17                    | Sub Head wise breakup for 2016-17 |                               |                                 |                                    |  |  |  |
|   |   |   |   | Consumables<br>(M&S)              | Research Expenditure<br>(FRE) | Travel & Conveyance<br>(Res-TE) | Capital<br>(Scientific Equipments) | Fellowship   |  |  |
| 1   | 2   | 3                                       | 4   | 5                                 | 6                             | 7                               | 8                                  | 9  | 10   | 11   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |   |   |   |                                   |                               |                                 |                                    |  |  |  |
| NW-37   | Screening for establishing bio-efficiency of ethno-Insecticidal plants from the forest of Andhra Pradesh. Dr. Deepa M, 3 years , 2016-2019.   | 11.75                                   | 6.07  | 0.40                              | 0.34                          | 0.30                            | 3.16                               | 1.87   | 1JRF   | Approved   |
|   | <b>TOTAL</b>  | <b>11.75</b>                            | <b>6.07</b>   | <b>0.40</b>                       | <b>0.34</b>                   | <b>0.30</b>                     | <b>3.16</b>                        | <b>1.87</b>  | <b>1JRF</b>                                    |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b>                             |   |   |   |                                   |                               |                                 |                                    |  |  |  |
| NW-38   | Impacts of nutrient loading from droppings of nesting migratory waterfowl in the wetland ecosystem of <i>Nelapattu</i> bird sanctuary, Andhra Pradesh Mr. Anish V. Pachu R.A.I , 3years, 2016-2019. | 16.52                                   | 6.256   | 2.0                               | 0.80                          | 0.80                            | 1.20                               | 1.456  | 1 JRF  | Approved.<br>PI to include control area / plot in the project. |
|   | <b>TOTAL</b>  | <b>16.52</b>                            | <b>6.256</b>  | <b>2.0</b>                        | <b>0.80</b>                   | <b>0.80</b>                     | <b>1.20</b>                        | <b>1.456</b>   | <b>1 JRF</b>                                   |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |   |   |   |                                   |                               |                                 |                                    |  |  |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b>                           |   |   |   |                                   |                               |                                 |                                    |  |  |  |

**Annexure-IV (IFB)**

|              |   |              |               |             |             |            |             |              |                     |           |
|--------------|---|--------------|---------------|-------------|-------------|------------|-------------|--------------|---------------------|-----------|
| <b>NW-39</b> | Productivity improvement in <i>Pterocarpus santalinus</i> L.f. through mass selection and selective breeding. Dr. S. Pattanaik, 5 years, 2016-2021. | 40.00        | 8.292         | 1.00        | 1.25        | 1.0        | 2.15        | 2.892        | 1 JRF 1 Mali        | Approved. |
|              | <b>TOTAL</b>  | <b>40.00</b> | <b>8.292</b>  | <b>1.00</b> | <b>1.25</b> | <b>1.0</b> | <b>2.15</b> | <b>2.892</b> | <b>1 JRF 1 Mali</b> |           |
|              | <b>GRAND TOTAL</b>  | <b>68.27</b> | <b>20.618</b> | <b>3.4</b>  | <b>2.39</b> | <b>2.1</b> | <b>6.51</b> | <b>6.218</b> | <b>3 JRF 1 Mali</b> |           |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No. | Research Projects | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |               |               | Man Power                  |   |
|---------|-------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|---------------|---------------|----------------------------|---|
|         |                   |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship    | Total         |                            |   |
| 1       | Ongoing Projects  | 52.48                              | 1.19  | 3.87                       | 2.99                           | 0.80                            | 6.12          | 14.97         | 6PA                        | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2       | New Projects      | 68.27                              | 3.4   | 2.39                       | 2.1                            | 6.51                            | 6.218         | 20.618        | 3 JRF 1 Mali               | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|         | <b>Total</b>      | <b>120.75</b>                      | <b>4.59</b>   | <b>6.26</b>                | <b>5.09</b>                    | <b>7.31</b>                     | <b>12.338</b> | <b>35.588</b> | <b>3 JRF, 6 PA, 1 Mali</b> |   |

## Institute of Forest Genetics and Tree Breeding, Coimbatore

### A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration (Start and end year)  | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016) |
|---|---|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|---|--|
|   |   |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |   |  |
|   |   |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |   |  |
| 1   | 2   | 3                                 | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10          | 11  | 12                                       |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth: NIL</b> |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b>                                 |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust Area III: Forests and climate change</b>  |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| OG-22   | Screening tree species for intra-specific variation in carbon sequestration potential under elevated CO <sub>2</sub> . Dr. C. Buvaneshwaran, 3 years, 2014-2017 | 9.57                              | 1.17   | 3.19  | 1.0                               | 1.25                       | 0.10                           | 0                               | 0.84        | FA-1 no.                                    | Approved for continuation.               |
| <b>TOTAL</b>  |   | <b>9.57</b>                       | <b>1.17</b>  | <b>3.19</b>   | <b>1.0</b>                        | <b>1.25</b>                | <b>0.10</b>                    | <b>0</b>                        | <b>0.84</b> | <b>FA-1 no.</b>                             |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b>                               |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| OG-23   | Establishment of second generation seed orchards of Eucalyptus and selection clones for high productivity in Eucalyptus. Dr. V.Sivakumar, 5 years, 2012-2017    | 39.98                             | 7.14   | 12.88   | 0.50                              | 7.5                        | 2.0                            | 0                               | 2.88        | 2 JRF                                       | Approved for continuation.               |
| OG-24   | Germplasm assemblage and Improvement of <i>Leucaena leucocephala</i> (Lam.) de Wit for industrial biomass productivity. A. Durai, 5 years, 2013-2018            | 14.22                             | 3.33   | 2.50  | 0.25                              | 1.5                        | 0.75                           | 0                               | 0           | -   | Approved for continuation.               |

**Annexure-V (IFGTB)**

|              |  |       |       |      |      |      |      |      |      |                                   |                            |
|--------------|--|-------|-------|------|------|------|------|------|------|-----------------------------------|----------------------------|
| <b>OG-25</b> | Evaluation of inter-specific hybrid clones of Eucalypts for productivity and wood traits. D. Rajasugunasekar, 1.9.2014 – 2017  | 10.58 | 0.60  | 2.96 | 0.50 | 0.50 | 1.00 | 0    | 0.96 | 1 FA                              | Approved for continuation. |
| <b>OG-26</b> | Genetic diversity assessment for management of Eucalyptus seed orchards. Dr. Rekha R. Warriar, 5 years, 2012-2017  | 47.60 | 12.64 | 8.16 | 5.30 | 0.25 | 0.10 | 0.30 | 2.21 | 1 JRF                             | Approved for continuation. |
| <b>OG-27</b> | Evaluation of genetic resources of <i>Melia dubia</i> in Tamil nadu and Kerala for productivity enhancement in tree farming. Dr.Rekha R. Warriar, 5 years, 2012-2017           | 41.90 | 13.85 | 4.21 | 1.50 | 1.00 | 0.50 | 0    | 0.96 | 1 FA                              | Approved for continuation. |
| <b>OG-28</b> | Characterization of DNA Barcoding genes in <i>Pterocarpus</i> specie. Dr. A. Shanthi, 3 years, November 2014 to October 2017   | 21.41 | 0.33  | 3.69 | 2.00 | 0.20 | 0.05 | 2.0  | 1.44 | 1JRF                              | Approved for continuation. |
| <b>OG-29</b> | Exploration, collection and evaluation of Forest Genetic Resources and Development of National Gene bank. Dr. K. Palanisamy, 5 years, 2012- 2017                               | 39.71 | 7.95  | 8.79 | 0.80 | 2.00 | 2.50 | 0    | 3.49 | 1 JRF<br>1 Skilled<br>2 Unskilled | Approved for continuation. |
| <b>OG-30</b> | Productivity studies on commonly cultivated bamboo species in different agro climatic zones of Tamil Nadu. Shri. M. Maria Dominic Savio, 5 years, 2012-2017                    | 19.11 | 3.10  | 3.68 | 0.25 | 0.75 | 0.75 | 0    | 1.93 | JRF-1                             | Approved for continuation. |
| <b>OG-31</b> | Selection of clones of <i>Acacia auriculiformis</i> with desirable stem form and wood properties for short rotation timber production. Sh. Maheshwar Hedge, 5 years, 2010-2017 | 19.22 | 15.14 | 3.04 | 0    | 1.0  | 0.60 | 0    | 1.44 | 1 JRF                             | Approved for continuation. |



## Annexure-V (IFGTB)

|  |                    |               |              |              |             |              |             |            |              |   |  |
|--|--------------------|---------------|--------------|--------------|-------------|--------------|-------------|------------|--------------|---|--|
|  | <b>TOTAL</b>       | <b>253.73</b> | <b>64.08</b> | <b>49.91</b> | <b>11.1</b> | <b>14.7</b>  | <b>8.25</b> | <b>2.3</b> | <b>15.31</b> | <b>7 JRF<br/>FA-2,<br/>Skilled-1,<br/>unskilled-<br/>2</b>  |  |
|  | <b>GRAND TOTAL</b> | <b>263.3</b>  | <b>65.25</b> | <b>53.1</b>  | <b>12.1</b> | <b>15.95</b> | <b>8.35</b> | <b>2.3</b> | <b>16.15</b> | <b>7 JRF, 3<br/>FA,<br/>Skilled-1,<br/>unskilled-<br/>2</b> |  |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR):**

| S. No.   | Project title/PI/Duration<br>(Start and end year)  | Total<br>budget<br>outlay<br>(Rs. in lakh) | Approx.<br>projected<br>expenditure<br>till 31 <sup>st</sup><br>March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                                  |                                       |   |             | Recommendations<br>of Review Meeting<br>(2016)  |
|--|--|--|--|---|-----------------------------------|----------------------------------|---------------------------------------|---|-------------|---|
|  |  |  |  | Budget<br>Requirem<br>ent for<br>2016-17                | Sub Head wise breakup for 2016-17 |                                  |                                       |   |             |   |
|  |  |  |  |   | Consumables<br>(M&S)              | Research<br>Expenditure<br>(FRE) | Travel and<br>Conveyance (Res-<br>TE) | Capital<br>(Scientific<br>Equipments)       | Fellowship  |   |
| 1  | 2  | 3  | 4  | 5   | 6                                 | 7                                | 8                                     | 9   | 10          | 11  |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |  |  |  |   |                                   |                                  |                                       |   |             |   |
| <b>OG-32<br/>CR-7</b>  | Mapping and monitoring of<br>Casuarinas and Eucalyptus<br>Plantations in Tamilnadu using<br>RS and GIS. R.Vivekanandan,<br>3 years, 2013 – 2016 ( <b>Change<br/>request</b> ). | <b>10.50</b>                               | <b>3.30</b>  | <b>4.76</b>   | <b>0</b>                          | <b>0.10</b>                      | <b>1.50</b>                           | <b>1.50</b><br>(Satellite<br>Imagerie<br>s) | <b>1.66</b> | Approved one year extension up to<br>2017 within sanctioned budget<br>outlay of Rs. 10.50 lakhs. One JRF<br>approved instead of SRF working<br>earlier. This will be the last<br>extension and no further extension<br>will be given. |
|  | <b>TOTAL</b>   | <b>10.50</b>                               | <b>3.30</b>  | <b>4.76</b>   | <b>0</b>                          | <b>0.10</b>                      | <b>1.50</b>                           | <b>1.50</b>                                 | <b>1.66</b> |   |

**Annexure-V (IFGTB)**

| <b>Thrust Area II: Biodiversity conservation and ecological security</b>            |  |             |               |             |             |             |             |            |             |   |
|---|--|-------------|---------------|-------------|-------------|-------------|-------------|------------|-------------|---|
| <b>OG-33<br/>CR-8</b>   | Population structure, regeneration status and pollination ecology of <i>Dalbergia latifolia</i> and <i>D. sissooides</i> . Dr. K. R. Sasidharan, 5 years, 2011-2016 ( <b>Change request</b> ). | 7.50        | 4.00          | 0.75        | 0           | 0.25        | 0.50        | 0          | 0           | Approved one year extension up to 2017 within sanctioned budget outlay for completion of field works already envisaged and to be completed in Kerala part of the study area.. This will be the last extension and no further extension will be given. |
| <b>TOTAL</b>  |  | <b>7.50</b> | <b>4.00</b>   | <b>0.75</b> | <b>0</b>    | <b>0.25</b> | <b>0.50</b> | <b>0</b>   | <b>0</b>    |   |
| <b>Thrust Area III: Forests and climate change</b>                                  |  |             |               |             |             |             |             |            |             |   |
| <b>OG-34<br/>CR-9</b>   | Assessment of soil organic carbon under different land uses in Tamil Nadu. Dr. A. C. SuryaPrabha, 3 years, 2013-2016 ( <b>Change request</b> ).  | 6.00        | 3.432         | 2.41        | 0.50        | 0.55        | 0.40        | -          | 0.96        | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given.   |
| <b>TOTAL</b>  |  | <b>6.00</b> | <b>3.432</b>  | <b>2.41</b> | <b>0.50</b> | <b>0.55</b> | <b>0.40</b> | <b>-</b>   | <b>0.96</b> |   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement: NIL</b> |  |             |               |             |             |             |             |            |             |   |
| <b>GRAND TOTAL</b>  |  | <b>24</b>   | <b>10.732</b> | <b>7.92</b> | <b>0.5</b>  | <b>0.9</b>  | <b>2.4</b>  | <b>1.5</b> | <b>2.62</b> |   |

**C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

| S. No.  | Project title/PI/Duration<br>(Start and end year) | Total budget<br>outlay<br>(Rs. in lakh) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                                  |                                       |                                       |            | Required<br>Manpower<br>(RA/SRF/<br>JRF/ PA/<br>FA etc.) | Recommendations<br>of Review Meeting<br>(2016) |
|---|---|---|---|-----------------------------------|----------------------------------|---------------------------------------|---------------------------------------|------------|--|--|
|   |   |   | Budget<br>Requirement<br>for 2016-17                    | Sub Head wise breakup for 2016-17 |                                  |                                       |                                       |            |  |  |
|   |   |   |   | Consumables<br>(M&S)              | Research<br>Expenditure<br>(FRE) | Travel and<br>Conveyance (Res-<br>TE) | Capital<br>(Scientific<br>Equipments) | Fellowship |  |  |
| 1   | 2   | 3                                       | 4   | 5                                 | 6                                | 7                                     | 8                                     | 9          | 10   | 11   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |   |   |   |                                   |                                  |                                       |                                       |            |  |  |

**Annexure-V (IFGTB)**

|   |   |               |               |             |             |             |             |              |  |  |
|---|---|---------------|---------------|-------------|-------------|-------------|-------------|--------------|--|--|
| <b>NW-40</b>  | Evaluation of windbreaks for enhancing water use efficiency, crop productivity and climate change resilience in farmlands in semiarid regions of Tamil Nadu. Dr C. Buvaneshwaran, 4 years, 2016-2020. | 11.55         | 4.26          | 0.10        | 1.75        | 0.75        | -           | 1.66         | JRF-1                                  | Approved for 4 years within the proposed budget. Co- terminus with usual rotation of 4 years. PI to align the budget.  |
| <b>NW-41</b>  | Insect pests of out planted saplings of ToF (Trees Outside Forests) species and their management. Dr. John Prasanth Jacob, 3 years 2016-2019.   | 21.99         | 7.53          | 0.50        | 1.40        | 3.0         | 0.00        | 2.63         | 1 JRF<br>1 FA                          | Approved   |
| <b>NW-42</b>  | <i>Ailanthus excelsa</i> –for alternate protein: as a potential of fodder in terms of nutritive value and qualitative assessment of other secondary compounds. Dr. S. Murugesan, 3 years, 2016-2019.  | 13.944        | 4.156         | 1.0         | 1.0         | 0.50        | -           | 1.656        | JRF- One<br>Unskilled worker(UNW) -One | Approved. PI to undertake exhaustive literature consultation to avoid repetition and submit status report to the Director before project is taken up for implementation. |
|   | <b>TOTAL</b>  | <b>47.484</b> | <b>15.946</b> | <b>1.6</b>  | <b>4.15</b> | <b>4.25</b> | <b>0</b>    | <b>5.946</b> | <b>3 JRF, 1FA, UNW-1</b>               |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security:</b> |   |               |               |             |             |             |             |              |  |  |
| <b>NW-43</b>  | Invasion impacts of <i>Acacia mearnsii</i> on changes in soil fertility status of shola forests in the Western Ghats. Dr. A.C. Surya Prabha, 2 Years, 2016-2018.                                      | 15.89         | 4.09          | 1.00        | 0.85        | 0.80        | -           | 1.44         | JRF - 1                                | Approved. Third short term objective deleted.  |
| <b>NW-44</b>  | Bicolourant: Bioprospecting of selected accessions of Red tamarind as eco friendly and protective natural dye in textiles/foods. Dr. S. Murugesan, 3 years, 2016-2019.                                | 15.544        | 4.856         | 1.00        | 1.45        | 0.75        | -           | 1.656        | JRF - 1                                | Approved for 2 years duration and without capital.   |
|   | <b>TOTAL</b>  | <b>31.43</b>  | <b>8.946</b>  | <b>2.00</b> | <b>2.30</b> | <b>1.55</b> | <b>0.00</b> | <b>3.096</b> | <b>2 JRF</b>                           |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>                   |   |               |               |             |             |             |             |              |  |  |

**Annexure-V (IFGTB)**

| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b> |   |       |      |      |      |      |      |      |         |  |
|---|---|-------|------|------|------|------|------|------|---------|--|
| <b>NW-45</b>  | Genetic improvement of <i>Casuarina</i> for growth and pulp yield through intra and interspecific hybridization. Dr. A. Nicodemus, 5 years, 2016-2021.                            | 24.07 | 6.34 | 0.50 | 0.50 | 0.90 | 3.00 | 1.44 | 1 JRF   | Approved   |
| <b>NW-46</b>  | Testing of new set of provenances of <i>Acacia mangium</i> and estimation of genetic gain from first and second generation seed orchards. Dr Maheshwar Hegde, 4 years, 2016-2020. | 18.14 | 5.44 | 0.5  | 2.50 | 1.00 | -    | 1.44 | One JRF | Approved   |
| <b>NW-47</b>  | Isolation and characterization of Cinnomoyl CoA Reductase gene in <i>Casuarina equisetifolia</i> . Dr. A. Shanthi, 3 years, 2016-2019.  | 16.71 | 5.14 | 3.0  | 0.2  | 0.5  | -    | 1.44 | 1 JRF   | Approved minus equipment. Budget outlay revised to Rs. 16.71 lakhs and first year budget to Rs. 5.14 lakhs |
| <b>NW-48</b>  | Production of multi-parent intercross populations of eucalyptus for salinity tolerance. Dr. R. Yasodha, 3 years, 2016-2019.   | 27.36 | 5.64 | 1.5  | 2.5  | 0.8  | 0.00 | 0.84 | 1FA     | Approved. Provisionally for Rs. 27.36 lakhs.   |
| <b>NW-49</b>  | Strategies for inducing early flowering in eucalyptus. Dr. V.K.W. Bachpai, 3 years, 2016-2019.  | 15.31 | 3.21 | 0.5  | 1.57 | 0.30 | 0.00 | 0.84 | 1FA     | Approved. Check work already carried out (including ENVIS book on Eucalyptus) before implementation        |
| <b>NW-50</b>  | Assessment of <i>Calophyllum inophyllum</i> clones for oil yield and site specificity, Dr. R. Anandalakshmi, 5, 2016-2021.  | 20.84 | 5.81 | 0.20 | 0.85 | 0.60 | 2.50 | 1.66 | 1 JRF   | Approved   |
| <b>NW-51</b>  | Development of seed pelleting techniques for commercially important tree species, Dr R Anandalakshmi, 3 years, 2016-2019.   | 12.00 | 4.66 | 1.00 | 1.00 | 0.70 | 1.00 | 0.96 | 1 FA    | Approved   |

**Annexure-V (IFGTB)**

|              |   |               |              |            |              |            |             |              |  |           |
|--------------|---|---------------|--------------|------------|--------------|------------|-------------|--------------|--|-----------|
| <b>NW-52</b> | Evaluation and Popularization of <i>Neolamarckia cadamba</i> (Roxb.) Miq in Tamil Nadu and Kerala, Dr A Vijayaraghavan, 6 years, 2016-2022.           | 33.71         | 4.05         | 0.20       | 1.64         | 0.55       | 0.00        | 1.66         | 1 JRF                                    | Approved. |
| <b>NW-53</b> | Evaluation of second generation <i>Eucalyptus camaldulensis</i> clones for higher productivity. Dr A Vijayaraghavan, 6 years, 2016-2022.              | 30.10         | 3.06         | 0.20       | 0.60         | 0.60       | 0.00        | 1.66         | 1 JRF                                    | Approved. |
| <b>NW-54</b> | Genetic improvement of <i>Swietenia macrophylla</i> for higher productivity. Dr M V Durai, 4 years, 2016-2020   | 23.18         | 7.16         | 0.40       | 1.10         | 1.20       | 2.80        | 1.66         | 1 JRF                                    | Approved  |
| <b>NW-55</b> | Biology, ecology and management of the <i>Casuarina</i> seed pests. Dr A Balu, 4 years, 2016-2020.  | 13.68         | 2.91         | 0.20       | 0.50         | 0.55       | 0.00        | 1.66         | JRF - 1                                  | Approved. |
| <b>NW-56</b> | Selection and screening of germplasm of <i>Acacia nilotica</i> L. to improve Productivity in Tamil Nadu. Dr. K. Panneer Selvam, 5 years, 2016 – 2021. | 38.97         | 5.59         | 0.00       | 1.07         | 1.00       | 0.90        | 2.62         | 1 JRF<br>1 FA                            | Approved  |
|              | <b>TOTAL</b>  | <b>274.07</b> | <b>59.01</b> | <b>8.2</b> | <b>14.03</b> | <b>8.7</b> | <b>10.2</b> | <b>17.88</b> | <b>10 JRF, 4 FA,<br/>1 US</b>            |           |
|              | <b>GRAND TOTAL</b>  | <b>274.07</b> | <b>59.01</b> | <b>8.2</b> | <b>14.03</b> | <b>8.7</b> | <b>10.2</b> | <b>17.88</b> | <b>15 JRF, 5<br/>FA, 2<br/>Unskilled</b> |           |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No. | Research Projects       | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |              |               | Man Power                                   |   |
|---------|-------------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|--------------|---------------|---|---|
|         |                         |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship   | Total         |   |   |
| 1       | <b>Ongoing Projects</b> | <b>287.3</b>                       | <b>12.6</b>   | <b>16.85</b>               | <b>10.75</b>                   | <b>3.8</b>                      | <b>18.77</b> | <b>61.02</b>  | <b>7 JRF, 3 FA, Skilled-1, unskilled 2</b>  | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2       | <b>New Projects</b>     | <b>274.07</b>                      | <b>8.2</b>  | <b>14.03</b>               | <b>8.7</b>                     | <b>10.2</b>                     | <b>17.88</b> | <b>59.01</b>  | <b>15 JRF, 5 FA, 2 Unskilled</b>            | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|         | <b>Total</b>            | <b>561.37</b>                      | <b>20.8</b>   | <b>30.88</b>               | <b>19.45</b>                   | <b>14</b>                       | <b>36.65</b> | <b>120.03</b> | <b>22 JRF, 8 FA, Skilled-1, unskilled 4</b> |   |

## Institute of Forest Productivity, Ranchi

### A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration (Start and end year)   | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |            | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016)  |
|---|--|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|------------|---|---|
|   |  |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |            |   |   |
|   |  |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship |   |   |
| 1   | 2  | 3                                 | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10         | 11  | 12  |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth: NIL</b> |  |                                   |  |   |                                   |                            |                                |                                 |            |   |   |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b>                                 |  |                                   |  |   |                                   |                            |                                |                                 |            |   |   |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |  |                                   |  |   |                                   |                            |                                |                                 |            |   |   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b>                               |  |                                   |  |   |                                   |                            |                                |                                 |            |   |   |
| <b>OG-35</b>  | Tree Borne Oil seeds (TBOs) in community lands for Improved Livelihoods of Vulnerable Groups of Jharkhand.<br>Dr Animesh Sinha, 5 years, 2012-2017 | 23.34                             | 8.46   | -   | -                                 | -                          | -                              | -                               | -          | -   | IFP Ranchi requested for closure of the project, the same was not accepted. Director IFP, Ranchi was requested to provide following details:<br>1. Year wise budget allocation made and expenditure incurred for years 2012-13, 2013-14, 2014-15 and 2015-16.<br>2. Physical progress annually against each objective and against approved annual action plan.<br>3. Director's justification/ recommendation for closure of the project. |

## Annexure-VI (IFP)

|              |   |              |              |               |             |             |             |             |              |                     |                            |
|--------------|---|--------------|--------------|---------------|-------------|-------------|-------------|-------------|--------------|---------------------|----------------------------|
| <b>OG-36</b> | Collection, conservation and evaluation of <i>Melia dubia</i> Germplasm from North-Bengal, Orissa hills and other parts of India for identification and release of superior clones.<br>Sh. Aditya Kumar, 5 years, 2013-2018 | <b>67.50</b> | <b>26.56</b> | <b>11.356</b> | <b>4.50</b> | <b>2.50</b> | <b>1.50</b> | <b>0.00</b> | <b>2.856</b> | <b>1 JRF + 1 FA</b> | Approved for continuation. |
|              | <b>Total</b>  | <b>67.50</b> | <b>26.56</b> | <b>11.356</b> | <b>4.50</b> | <b>2.50</b> | <b>1.50</b> | <b>0.00</b> | <b>2.856</b> | <b>1 JRF + 1 FA</b> |                            |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR): NIL****C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

| S.no  | Project title/PI/Duration  | Total Cost of the Project (Rs. in Lakhs) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Required Manpower (RA/SRF/ JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016)  |  |
|---|--|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|--|---|--|
|   |  |  | Budget requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |  |   |  |
|   |  |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |  |   |  |
| 1   | 2  | 3  | 4   | 5                                 | 6                          | 7                              | 8                               | 9           | 10   | 11  |  |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |  |  |   |                                   |                            |                                |                                 |             |  |   |  |
| NW-57   | Development of <i>Flemingia</i> based agroforestry model for poverty alleviation in Jharkhand. Dr. A. K. Pandey, 3 years, 2016 -2019 .   | 13.64                                    | -   | -                                 | -                          | -                              | -                               | -           | -  | -   | PI has been transferred to FRI, Dehradun. The project therefore is dropped by the institute. |
| NW-58   | Field evaluation and domestication of high yielding cultivars of <i>Withania somnifera</i> Dunal among the rural people of Jharkhand and West Bengal<br>Sh. Sanjeev Kumar, 3 years, 2016 – 2019. | <b>10.76</b>                             | <b>3.53</b>   | <b>1.10</b>                       | <b>1.20</b>                | <b>0.60</b>                    | <b>0.00</b>                     | <b>0.63</b> | <b>1 FA</b>                                  | Approved without capital. Budget outlay revised to Rs. 10.76 lakhs and first year budget to Rs. 3.53 lakhs. |  |
|   | <b>TOTAL</b>   | <b>10.76</b>                             | <b>3.53</b>   | <b>1.10</b>                       | <b>1.20</b>                | <b>0.60</b>                    | <b>0.00</b>                     | <b>0.63</b> | <b>1 FA</b>                                  |   |  |
| <b>Thrust area II- Biodiversity conservation and ecological security</b>                                  |  |  |   |                                   |                            |                                |                                 |             |  |   |  |
| NW-   | Risk Assessment of <i>Lantana</i>  | <b>18.98</b>                             | <b>5.23</b>   | <b>0.50</b>                       | <b>1.50</b>                | <b>1.50</b>                    | <b>0.00</b>                     | <b>1.73</b> | <b>1 JRF</b>                                 | Approved as Pilot project   |  |



## Annexure-VI (IFP)

|  |  |              |              |             |             |             |             |             |                          |  |
|--|--|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------------------|--|
| 59   | camara using Spatial Distribution Modeling Approach in Latehar District.<br>Dr. Sharad Tiwari,<br>3 years, 2016 – 2019.  |              |              |             |             |             |             |             |                          | without equipment. Project cost revised to Rs. 18.98. First year budget revised to Rs 5.23 lakhs                   |
|  | <b>TOTAL</b>   | <b>18.98</b> | <b>5.23</b>  | <b>0.50</b> | <b>1.50</b> | <b>1.50</b> | <b>0.00</b> | <b>1.73</b> | <b>1 JRF</b>             |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>                        |  |              |              |             |             |             |             |             |                          |  |
| <b>Thrust area IV- Forest Genetic Resource Management and Tree Improvement</b> |  |              |              |             |             |             |             |             |                          |  |
| NW-60  | Single Nucleotide Polymorphism (SNP) marker discovery to resolve <i>Bambusa tulda-longispiculata-nutans-teres</i> complex in bamboo taxonomy.<br>Dr. Sanjay Singh, 4 years, 2016 – 2020. | <b>12.00</b> | <b>4.23</b>  | <b>1.78</b> | <b>0.40</b> | <b>0.65</b> | <b>0.00</b> | <b>1.40</b> | <b>JRF</b>               | Approved with budget outlay of Rs. 12.00 lakhs and without equipment. First year budget revised to Rs. 4.23 lakhs. |
| NW-61  | Chemical and genetic diversity of <i>Moringa oleifera</i> for value addition in eastern India as food supplement. Sh. Pankaj Singh, 3 years, 2016 – 2019.                                | <b>9.90</b>  | <b>3.79</b>  | <b>1.55</b> | <b>0.65</b> | <b>0.50</b> | <b>0.46</b> | <b>0.63</b> | <b>PA</b>                | Approved   |
| NW-62  | Genetic evaluation and improvement of <i>Flemingia semialata</i> and <i>Flemingia macrophylla</i> used for lac cultivation in Jharkhand.<br>Sh. Aditya Kumar, 3 years, 2016 – 19.        | <b>12.62</b> | <b>3.84</b>  | <b>1.70</b> | <b>0.80</b> | <b>0.50</b> | <b>0.00</b> | <b>0.84</b> | <b>FA</b>                | Approved   |
|  | <b>TOTAL</b>   | <b>34.52</b> | <b>11.86</b> | <b>5.03</b> | <b>1.85</b> | <b>1.65</b> | <b>0.46</b> | <b>2.87</b> | <b>1 JRF, 1 FA, 1 PA</b> |  |
|  | <b>GRAND TOTAL</b>   | <b>64.26</b> | <b>20.62</b> | <b>6.63</b> | <b>4.55</b> | <b>3.75</b> | <b>0.46</b> | <b>5.23</b> | <b>2 JRF, 2 FA, 1 PA</b> |  |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No. | Research Projects | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |              |               | Man Power                |   |
|---------|-------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|--------------|---------------|--------------------------|---|
|         |                   |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship   | Total         |                          |   |
| 1       | Ongoing Projects  | 67.50                              | 4.50  | 2.50                       | 1.50                           | 0.00                            | 2.856        | 11.356        | 1 JRF<br>1 FA            | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2       | New Projects      | 64.26                              | 6.63  | 4.55                       | 3.75                           | 0.46                            | 5.23         | 20.62         | 2 JRF, 2 FA, 1 PA        | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|         | <b>TOTAL</b>      | <b>131.76</b>                      | <b>11.13</b>  | <b>7.05</b>                | <b>5.25</b>                    | <b>0.46</b>                     | <b>8.086</b> | <b>31.976</b> | <b>3 JRF, 3 FA, 1 PA</b> |   |

## Institute of Wood Science and Technology, Bengaluru

### A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration (Start and end year)   | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016) |
|---|--|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|---|--|
|   |  |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |   |  |
|   |  |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |   |  |
| 1   | 2  | 3                                 | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10          | 11  | 12                                       |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |  |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| OG-37   | Study on microwave assisted direct biodiesel production from <i>Pongamia pinnata</i> (L) seed oil by two phase solvent extraction. Ritesh Kumar D. Ram, 3 years, 2014-2017 | 11.00                             | 3.30   | 4.41  | 2.50                              | 0.30                       | 0.20                           | 0                               | 1.41        | One JRF                                     | Approved for continuation.               |
| OG-38   | Determination of treatability and durability of imported timbers as per Bureau of Indian Standards. Dr. R. Sundararaj, 6 years, 2012-2018                                  | 8.80                              | 3.25   | 1.10  | 0.20                              | 0.15                       | 0.75                           | -                               | -           | -   | Approved for continuation.               |
| OG-39   | Bioassay of plant extractives for antibacterial activity of marine biofilm isolates. M.V. Rao, 4 years, 2013-2017  | 12.53                             | 1.00   | 3.35  | 1.50                              | 0.03                       | 0.02                           | 0                               | 1.80        | Reinstituti on of JRF                       | Approved for continuation.               |
| <b>TOTAL</b>  |  | <b>32.33</b>                      | <b>7.55</b>  | <b>8.86</b>   | <b>4.2</b>                        | <b>0.48</b>                | <b>0.97</b>                    | <b>0</b>                        | <b>3.21</b> | <b>2 JRF</b>                                |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b>                             |  |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |  |                                   |  |   |                                   |                            |                                |                                 |             |   |  |

## Annexure-VII (IWST)

| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b> |   |               |              |               |             |             |             |             |              |                       |                            |
|---|---|---------------|--------------|---------------|-------------|-------------|-------------|-------------|--------------|-----------------------|----------------------------|
| <b>OG-40</b>  | All India Co-ordinated Project on genetic improvement of <i>Melia dubia</i> .(AICP). Dr. Geeta Joshi , 10 years, 2012-2022  | 107.0         | 12.50        | 4.822         | 2.5         | 0.10        | 0.25        | -           | 1.872        | 1 JRF                 | Approved for continuation. |
| <b>OG-41</b>  | Refinement and standardization of protocols for <i>in vitro</i> propagation and genetic fidelity studies of micro propagated plants of two bamboo species <i>Bambusa balcooa</i> and <i>Thyrsostachys oliveri</i> . Dr. Ashutosh Srivastava, 4 years, 2011-2017 | 15.48         | 4.47         | 2.27          | 0.50        | 0.50        | 0.25        | -           | 1.02         | 1 PA                  | Approved for continuation. |
|   | <b>Total</b>  | <b>122.48</b> | <b>16.97</b> | <b>7.092</b>  | <b>3</b>    | <b>0.6</b>  | <b>0.5</b>  |             | <b>2.892</b> | <b>1 JRF<br/>1 PA</b> |                            |
|   | <b>GRAND TOTAL</b>  | <b>154.81</b> | <b>24.52</b> | <b>15.952</b> | <b>7.20</b> | <b>1.08</b> | <b>1.47</b> | <b>0.00</b> | <b>6.102</b> | <b>3 JRF<br/>1 PA</b> |                            |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR):**

| S. No.  | Project title/PI/Duration<br>(Start and end year)   | Total budget outlay<br>(Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Recommendations of Review Meeting (2016)   |
|---|---|--------------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|--|
|   |   |                                      |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |  |
|   |   |                                      |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |  |
| 1   | 2   | 3                                    | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10          | 11   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |   |                                      |  |   |                                   |                            |                                |                                 |             |  |
| <b>OG-42<br/>CR-10</b>  | Wood modification of <i>Melia composita</i> for improving its dimensional stability and durability. (AICP- 2012-2016), Dr. K.K. Pandey, 3 years, <b>(Change request)</b>                    | 7.54                                 | 4.94   | 2.60  | 0.70                              | 0.24                       | 0.10                           | -                               | 1.56        | Approved 2 <sup>nd</sup> extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given.   |
| <b>OG-43<br/>CR-11</b>  | Liquefaction of Wood and value added products from the liquefied wood. Dr. S.S. Chauhan, 3 years, 2013-2016 <b>(Change request)</b>   | 3.35                                 | 2.20   | 0.60  | 0.40                              | 0.20                       | -                              | -                               | -           | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given..   |
| <b>Total</b>  |   | <b>10.89</b>                         | <b>7.14</b>  | <b>3.2</b>  | <b>1.1</b>                        | <b>0.44</b>                | <b>0.1</b>                     | <b>0.00</b>                     | <b>1.56</b> |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b>                             |   |                                      |  |   |                                   |                            |                                |                                 |             |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |   |                                      |  |   |                                   |                            |                                |                                 |             |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b>                           |   |                                      |  |   |                                   |                            |                                |                                 |             |  |
| <b>OG-44<br/>CR-12</b>  | Vegetative propagation and silvicultural practices for selected tropical timber species for plywood and panel wood industries. Dr. Geeta Joshi, 4 years, 2011-2016: <b>(Change request)</b> | 12.25                                | 9.40   | 0.70  | 0.25                              | 0.20                       | 0.25                           | -                               | -           | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given. The budget outlay reduced to Rs. 12.25 lakhs from Rs. 17.04 lakhs. |

## Annexure-VII (IWST)

|  |                    |              |              |             |             |             |             |             |             |  |
|--|--------------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
|  | <b>Total</b>       | <b>12.25</b> | <b>9.40</b>  | <b>0.70</b> | <b>0.25</b> | <b>0.20</b> | <b>0.25</b> | <b>-</b>    | <b>-</b>    |  |
|  | <b>GRAND TOTAL</b> | <b>23.14</b> | <b>16.54</b> | <b>3.9</b>  | <b>1.35</b> | <b>0.64</b> | <b>0.35</b> | <b>0.00</b> | <b>1.56</b> |  |

**C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

| S.no.   | Project title/PI/Duration  | Total Cost of the Project (Rs. in Lakhs) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |            | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016)  |
|---|--|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|------------|---|---|
|   |  |  | Budget requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |            |   |   |
|   |  |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship |   |   |
| 1   | 2  | 3  | 5   | 6                                 | 7                          | 8                              | 9                               | 10         | 11  |   |
| <b>Thrust area I-Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |  |  |   |                                   |                            |                                |                                 |            |   |   |
| <b>NW-63 (PR-1)</b>   | Studies on acoustical behaviour of different types of natural fibres for their utilization as sound absorbing materials. Dr. S.K. Sharma, 3 years, 2016-2019.  | 16.65                                    | 12.61   | 0.50                              | 0.85                       | 0.50                           | 10.00                           | 0.76       | 1 PA  | Approved. Typing error of 2 years corrected to 3 years.   |
| <b>NW-64 (PR-2)</b>   | Identification, pattern of distribution, proportion of tension wood and study of certain physical and anatomical characters in <i>Melia composita</i> Syn. <i>Melia dubia</i> Cav. Wood of two different ages. Dr. M. Sujatha, 3 years, 2016-2019. | 13.16                                    | 8.12  | 0.70                              | 1.10                       | 0.30                           | 5.00                            | 1.02       | 1 PA  | Approved with budget of Rs. 13.16. Equipment cost reduced to Rs. 5.00 lakhs. First year budget revised to Rs. 8.12 lakhs. |
| <b>NW-65 (PR-3)</b>   | Efficacy of Nano metal oxides as wood preservative. Mrs. D. Venmalar, 3 years, 2016-2019.  | 10.65                                    | 3.46  | 1.55                              | 0.25                       | 0.10                           | 0                               | 1.41       | 1 JRF                                       | Approved  |
| <b>NW-66 (PR-4)</b>   | Gas Chromatography-Mass Spectrometry (GC-MS) Based Authentication of Sandalwood Oil. Dr.SS Bisht, 2 years  | 6.88                                     | 1.90  | 1.00                              | 0.70                       | 0.20                           | -                               | --         | --  | Approved without JRF/FA/PA and equipment. Time period revised to two years.   |

**Annexure-VII (IWST)**

|                      |  |       |       |      |      |      |      |      |               |   |
|----------------------|--|-------|-------|------|------|------|------|------|---------------|---|
|                      | 2016-2018.   |       |       |      |      |      |      |      |               | Budget to be accordingly revised to 6.88 lakhs. First year budget will be Rs 1.90 lakhs   |
| <b>NW-67 (PR-6)</b>  | A Study on Implication of legislation/ deregulation policy (2001) on Sandalwood cultivation in Karnataka. Smt. P. R. Triveni, 1 year, 2016-2017.   | 3.14  | 3.14  | -    | 0.80 | 1.50 | -    | 0.84 | 1 PA          | Approved for time period of one year. Budget revised to Rs. 3.14 lakhs. Draft sandalwood bill, associate TFRI and conduct workshop.                     |
| <b>NW-68 (PR-7)</b>  | Formaldehyde emission reduction from panel products. Dr. Anil Kumar Sethy, 3 years, 2016-2019.   | 5.85  | 1.99  | 0.80 | 0.42 | -    | -    | 0.77 | 1 PA          | Approved.   |
| <b>NW-69 (PR-8)</b>  | Estimation of important wood quality parameters and identification of timber species by rapid and nondestructive technique using Near Infrared Spectroscopy (NIRS). Dr. S.R. Shukla, 3 years, 2016-2019. | 20.00 | 12.19 | 0.40 | 1.53 | 0.05 | 8.80 | 1.41 | 1 JRF         | Approved with data analysis software. Equipment cost revised to Rs. 8.80 lakhs. Budget revised to 20.00 lakhs and first year budget to Rs. 12.19 lakhs. |
| <b>NW-70 (PR-9)</b>  | Biological degradation and weathering behaviour of wood-polymer composites. Dr. Pankaj Aggarwal, 3 years , 2016-2019.  | 19.42 | 7.59  | 1.25 | 3.75 | 0.50 | -    | 2.09 | 1 JRF<br>1 PA | Approved without equipment. Budget revised to 19.42 lakhs. First year budget will be Rs. 7.59 lakhs   |
| <b>NW-71 (PR-10)</b> | Screening of High oleoresin yielding forest plants of Western Ghats and standardisation of extraction methods. Mr. Chandrashekar.B.S., 3 years, 2016-2019.   | 10.70 | 3.25  | 1.05 | 0.50 | 0.30 | -    | 1.40 | 1 JRF         | Approved for Rs 10.7 lakhs without equipment. First year budget revised to Rs. 3.25 lakh.   |
| <b>NW-72 (PR-11)</b> | Incidence, forecast and control of emerging and re-emerging disease problems in nurseries & plantations of sandalwood. Dr. A. Muthukumar, 5 years  | 11.76 | 1.85  | 0.35 | 0.15 | 0.50 | Nil  | 0.85 | 1 PA          | Approved without equipment. Total budget outlay revised to Rs. 11.76 lakhs. First year budget revised to Rs   |

## Annexure-VII (IWST)

|  |   |                |              |             |              |             |             |              |                               |           |
|--|---|----------------|--------------|-------------|--------------|-------------|-------------|--------------|-------------------------------|-----------|
|  | 2016-2021.  |                |              |             |              |             |             |              |                               | 1.85lakhs |
|  | <b>TOTAL</b>  | <b>118.21</b>  | <b>56.1</b>  | <b>7.6</b>  | <b>10.05</b> | <b>3.95</b> | <b>23.8</b> | <b>10.55</b> | <b>4 JRFs</b><br><b>6 PAs</b> |           |
| <b>Thrust area II- Biodiversity conservation and ecological security- NIL</b>  |   |                |              |             |              |             |             |              |                               |           |
| <b>Thrust area III- Forest and Climate Change - NIL</b>                        |   |                |              |             |              |             |             |              |                               |           |
| <b>Thrust area IV- Forest Genetic Resource Management and Tree Improvement</b> |   |                |              |             |              |             |             |              |                               |           |
| NW-73<br>(PR-5)  | Selection and Improvement of Natural dye yielding plants.Sh. H. C. Sindhu Veerendra, 4 years, 2016-2020 | <b>14.588</b>  | <b>3.67</b>  | <b>1.10</b> | <b>0.30</b>  | <b>0.40</b> | <b>-</b>    | <b>1.87</b>  | <b>1 JRF</b>                  | Approved  |
|  | <b>TOTAL</b>  | <b>14.588</b>  | <b>3.67</b>  | <b>1.10</b> | <b>0.30</b>  | <b>0.40</b> | <b>-</b>    | <b>1.87</b>  | <b>1 JRF</b>                  |           |
|  | <b>GRAND TOTAL</b>  | <b>132.798</b> | <b>59.62</b> | <b>8.7</b>  | <b>10.35</b> | <b>4.35</b> | <b>23.8</b> | <b>12.42</b> | <b>5 JRFs</b><br><b>6 PAs</b> |           |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No | Research Projects | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |               |               | Man Power                     |   |
|--------|-------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|---------------|---------------|-------------------------------|---|
|        |                   |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship    | Total         |                               |   |
| 1      | Ongoing Projects  | 177.95                             | 8.55  | 1.72                       | 1.82                           | 0                               | 7.662         | 19.852        | 3 JRF, 1 PA                   | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2      | New Projects      | 132.798                            | 8.7   | 10.35                      | 4.35                           | 23.8                            | 12.42         | 59.62         | 5 JRFs<br>6 PAs               | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|        | <b>TOTAL</b>      | <b>310.748</b>                     | <b>17.25</b>  | <b>12.07</b>               | <b>6.17</b>                    | <b>23.8</b>                     | <b>20.082</b> | <b>79.472</b> | <b>8 JRFs</b><br><b>7 PAs</b> |   |



## Rain Forest Research Institute, Jorhat

## A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration<br>(Start and end year)  | Total<br>budget<br>outlay<br>(Rs. in lakh) | Approx.<br>projected<br>expenditure<br>till 31 <sup>st</sup><br>March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                                  |                                      |                                       |             | Required<br>Manpower<br>(RA/SRF/<br>JRF/ PA/<br>FA etc.) | Recommendations<br>of Review Meeting<br>(2016) |
|---|--|--|--|---|-----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|-------------|--|--|
|   |  |  |  | Budget<br>Requirem<br>ent for<br>2016-17                | Sub Head wise breakup for 2016-17 |                                  |                                      |                                       |             |  |  |
|   |  |  |  |   | Consumables<br>(M&S)              | Research<br>Expenditure<br>(FRE) | Travel and<br>Conveyance<br>(Res-TE) | Capital<br>(Scientific<br>Equipments) | Fellowship  |  |  |
| 1   | 2  | 3  | 4  | 5   | 6                                 | 7                                | 8                                    | 9                                     | 10          | 11   | 12   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |  |  |  |   |                                   |                                  |                                      |                                       |             |  |  |
| <b>OG-45</b>  | Adaptation and mitigation measures in relation to shortening of jhum cycle vis-à-vis soil nutrient status and productivity in different traditional systems of Nagaland. Dr. Krishna Giri, 3 years , 2015-2018 | 12.94                                      | <b>3.50</b>  | 3.82  | 1.08                              | 0.6                              | 1.30                                 | 0.00                                  | 0.84        | NIL  | Approved for continuation                      |
| <b>OG-46</b>  | Assessment of selected ecosystem services and their inter-linkage with human wellbeing in Dibru-Saikhowa Biosphere Reserve, Assam. Sh Ajay Kumar, 2 years, 2015-2017   | 7.09                                       | <b>0.32</b>  | 4.38  | 0.90                              | 0.20                             | 2.10                                 | 0.10                                  | 1.08        | PA-1   | Approved for continuation                      |
|   | <b>TOTAL</b>   | <b>20.03</b>                               | <b>3.82</b>  | <b>8.2</b>  | <b>1.98</b>                       | <b>0.8</b>                       | <b>3.4</b>                           | <b>0.1</b>                            | <b>1.92</b> | <b>1 PA</b>  |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security:</b>                                 |  |  |  |   |                                   |                                  |                                      |                                       |             |  |  |
| <b>OG-47</b>  | Studies on ecological and ethnomycological aspects of wild mushrooms of Meghalaya. Rajesh Kumar, 3years, 2014-2017   | 17.862                                     | 8.03   | 5.43  | 1.72                              | 0.30                             | 0.75                                 | 0.00                                  | 2.66        | JRF-1<br>FA-1  | Approved for continuation                      |

**Annexure-VIII (RFRI)**

|              |  |        |       |      |      |      |      |      |      |               |                            |
|--------------|--|--------|-------|------|------|------|------|------|------|---------------|----------------------------|
| <b>OG-48</b> | Population genetic structure of <i>Calamus</i> species and influence of infectious diseases in Mizoram and Tripura, North East India. Shri Hans Raj, 3 years, 2014-2017  | 22.22  | 15.51 | 5.71 | 1.50 | 0.20 | 0.35 | 2.10 | 1.56 | FA-1          | Approved for continuation. |
| <b>OG-49</b> | Investigation in to the mortality of <i>Porkia Roxburghii</i> G. Don in North East India. Dr. R. K. Borah, 3 years, 2014-2017  | 13.94  | 6.11  | 4.93 | 0.62 | 0.10 | 1.28 | 0.00 | 2.93 | JRF-1<br>PA-1 | Approved for continuation  |
| <b>OG-50</b> | Impact of <i>mikania micrantha</i> Kun th. ex HBK on micro environment of native species in Bherjan, Borjan, Padumoni R.F., Dilli R.F. & Abhayapur R.F. of Upper Assam<br>P.I. Dr. K. N. Barua, Research Officer, 3 years, 2014-17 | 14.83  | 2.85  | 4.18 | 1.10 | 0.40 | 1.00 | 0.00 | 1.68 | FA-1          | Approved for continuation  |
| <b>OG-51</b> | Standardization of nursery techniques of selected wild fruit-plants of North East India for their effective conservation and development of value added products for inclusive growth.<br>Dr. T.N. Manohara, 3 years, 2015-2018    | 18.552 | 3.50  | 5.93 | 0.50 | 3.10 | 1.25 | 0.00 | 1.08 | -             | Approved for continuation  |
| <b>OG-52</b> | Studies on changes in soil quality and carbon buildup under different land use systems in Nagaland. P.I.: Dr. Gaurav Mishra, 3 years, 2015-2018  | 8.83   | 2.28  | 2.91 | 0.82 | 0.60 | 0.65 | 0.00 | 0.84 | FA-1          | Approved for continuation  |
| <b>OG-53</b> | Assessment, documentation and characterization of lichen diversity in Mizoram, Northeast India. Shri Sandeep Yadav, 3 years, 2015-2018   | 17.52  | 11.33 | 2.77 | 0.60 | 0.10 | 1.10 | 0.00 | 0.97 | PA-1          | Approved for continuation  |

**Annexure-VIII (RFRI)**

|   |  |                |              |              |             |            |             |            |             |                          |                            |
|---|--|----------------|--------------|--------------|-------------|------------|-------------|------------|-------------|--------------------------|----------------------------|
| <b>OG-54</b>  | Isolation and study the efficiency of Arbusular mycorrhizal fungi, phosphate and potash solubilizing bacteria in enhancing productivity and nutrient status of degraded soil under shifting cultivation of Karbi Anglong, Assam. Dr D. Dutta, 3 years, 2015-2018 | 10.98          | 0.80         | 4.22         | 1.08        | 1.25       | 1.05        | 0.00       | 0.84        | FA-1                     | Approved for continuation  |
| <b>OG-55</b>  | Studies on nurseries diseases of economically important tree species of Mizoram and their management. Sh Hans Raj, 3 years, 2015-2018  | 9.51           | -            | 3.41         | 0.55        | 0.05       | 0.85        | 0.20       | 1.76        | FA-I,                    | Approved for continuation  |
| <b>OG-56</b>  | Mycological investigations on diversity and ecological status of Bambusicolous macro-fungi in Upper Assam. Dr. VipinParkash, 2 years, 2015-2017  | 7.76           | 3.52         | 3.88         | 0.50        | 0.40       | 0.40        | 1.50       | 1.08        | FA-1                     | Approved for continuation  |
|   | <b>TOTAL</b>   | <b>142.004</b> | <b>53.93</b> | <b>43.37</b> | <b>8.99</b> | <b>6.5</b> | <b>8.68</b> | <b>3.8</b> | <b>15.4</b> | <b>2 JRF, 7 FA, 2 PA</b> |                            |
| <b>Thrust Area III: Forests and climate change: NIL</b>                         |  |                |              |              |             |            |             |            |             |                          |                            |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b> |  |                |              |              |             |            |             |            |             |                          |                            |
| <b>OG-57</b>  | Identification of suitable clones of populous species for North East India through genetic evaluation. Mohd. Ibrahim, 5 years, 2014-2019.  | 29.37          | 5.00         | 5.69         | 1.00        | 3.00       | 0.85        | 0.00       | 0.84        | FA-1                     | Approved for continuation. |
| <b>OG-58</b>  | All India coordinated project for genetic improvement <i>Melia composita</i> – RFRI Component. Dr. N. Ravi, 10 years, 2012- 2022   | 107.00         | 17.50        | 9.85         | 3.00        | 3.00       | 2.00        | 0.00       | 1.85        | JRF-1                    | Approved for continuation  |
| <b>OG-59</b>  | Screening of <i>Gmelina arborea</i> Roxb. clone for productivity and stability. Dr. N. Ravi, 5 years, 2013 – 2018  | 31.98          | 4.50         | 2.75         | 0.00        | 2.00       | 0.75        | 0.00       | 0.00        | -                        | Approved for continuation. |

## Annexure-VIII (RFRI)

|  |                    |                |              |              |              |             |              |            |              |                          |  |
|--|--------------------|----------------|--------------|--------------|--------------|-------------|--------------|------------|--------------|--------------------------|--|
|  | <b>Total</b>       | <b>168.35</b>  | <b>27</b>    | <b>18.29</b> | <b>4</b>     | <b>8</b>    | <b>3.6</b>   | <b>0</b>   | <b>2.69</b>  | <b>1 JRF, 1 FA</b>       |  |
|  | <b>GRAND TOTAL</b> | <b>330.384</b> | <b>84.75</b> | <b>69.86</b> | <b>14.97</b> | <b>15.3</b> | <b>15.68</b> | <b>3.9</b> | <b>20.01</b> | <b>3 JRF, 8 FA, 3 PA</b> |  |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR): Will be added after receiving the RAG proceeding of RFRI and approval of the same by the Chairman RPC (DG ICFRE)**

| S. No.   | Project title/PI/Duration<br>(Start and end year) | Total<br>budget<br>outlay<br>(Rs. in lakh) | Approx.<br>projected<br>expenditure<br>till 31 <sup>st</sup><br>March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                                  |                                      |                                       |            | Recommendations<br>of Review Meeting<br>(2016) |
|--|---|--|--|---|-----------------------------------|----------------------------------|--------------------------------------|---------------------------------------|------------|--|
|  |   |  |  | Budget<br>Requirem<br>ent for<br>2016-17                | Sub Head wise breakup for 2016-17 |                                  |                                      |                                       |            |  |
|  |   |  |  |   | Consumables<br>(M&S)              | Research<br>Expenditure<br>(FRE) | Travel and<br>Conveyance<br>(Res-TE) | Capital<br>(Scientific<br>Equipments) | Fellowship |  |
| 1  | 2   | 3  | 4  | 5   | 6                                 | 7                                | 8                                    | 9                                     | 10         | 11   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |   |  |  |   |                                   |                                  |                                      |                                       |            |  |
|  |   |  |  |   |                                   |                                  |                                      |                                       |            |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security</b>                                 |   |  |  |   |                                   |                                  |                                      |                                       |            |  |
|  |   |  |  |   |                                   |                                  |                                      |                                       |            |  |
| <b>Thrust Area III: Forests and climate change</b>   |   |  |  |   |                                   |                                  |                                      |                                       |            |  |
|  |   |  |  |   |                                   |                                  |                                      |                                       |            |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b>                          |   |  |  |   |                                   |                                  |                                      |                                       |            |  |
|  |   |  |  |   |                                   |                                  |                                      |                                       |            |  |

**C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

*Note: RAG of RFRI, Jorhat is scheduled on 10<sup>th</sup> and 11<sup>th</sup> of March 2016. The projects approved by RAG will be taken up for implementation as new projects for 2016-2017. The requirement of new projects will be added after approval of the new projects.*

| S.no.   | Project title/PI/Duration | Total Cost of the Project (Rs. in Lakhs) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |            | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016) |
|---|---------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|------------|---|--|
|   |                           |  | Budget requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |            |   |  |
|   |                           |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship |   |  |
| 1   | 2                         | 3  | 5   | 6                                 | 7                          | 8                              | 9                               | 10         | 11  |  |
| <b>Thrust area I-Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |                           |  |   |                                   |                            |                                |                                 |            |   |  |
|   |                           |  |   |                                   |                            |                                |                                 |            |   |  |
| <b>Thrust area II- Biodiversity conservation and ecological security</b>                                |                           |  |   |                                   |                            |                                |                                 |            |   |  |
|   |                           |  |   |                                   |                            |                                |                                 |            |   |  |
| <b>Thrust area III- Forest and Climate Change</b>   |                           |  |   |                                   |                            |                                |                                 |            |   |  |
|   |                           |  |   |                                   |                            |                                |                                 |            |   |  |
| <b>Thrust area IV- Forest Genetic Resource Management and Tree Improvement</b>                          |                           |  |   |                                   |                            |                                |                                 |            |   |  |
|   |                           |  |   |                                   |                            |                                |                                 |            |   |  |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No. | Research Projects                     | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |            |       | Man Power        |  |
|---------|---------------------------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|------------|-------|------------------|--|
|         |                                       |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship | Total |                  |  |
| 1       | <b>Ongoing Projects</b> <sup>CR</sup> | 330.384                            | 14.97   | 15.30                      | 15.68                          | 3.90                            | 20.01      | 69.86 | 3 JRF, 8FA, 3 PA | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects.  |
| 2       | <b>New Projects</b>                   | -                                  | -   | -                          | -                              | -                               | -          | -     | -                | New projects approved in RAG on 10 <sup>th</sup> and 11 <sup>th</sup> March 2016 will be taken up for implementation as new projects for 2016-2017. Accordingly the budget requirement for new projects will be added. |
|         | <b>TOTAL</b>                          | -                                  | -   | -                          | -                              | -                               | -          | -     | -                |  |

**CR- Change request projects of RFRI Jorhat will be added**

## Tropical Forest Research Institute, Jabalpur

## A. ONGOING PROJECTS (OG):

| S. No.  | Project title/PI/Duration (Start and end year)  | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Required Manpower (RA/SRF/JRF/ PA/ FA etc.) | Recommendations of Review Meeting (2016) |
|---|---|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|---|--|
|   |   |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2015-16 |                            |                                |                                 |             |   |  |
|   |   |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |   |  |
| 1   | 2   | 3                                 | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10          | 11  | 12                                       |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth: NIL</b> |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security: NIL</b>                                 |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b>                               |   |                                   |  |   |                                   |                            |                                |                                 |             |   |  |
| <b>OG-60</b>  | "All India Coordinated programme for genetic improvement of Teak". with four sub projects: ID No. 193. PIs - (i) Dr. Yogeshwar Mishra, (ii) Dr. R. Sett, (iii) Ms. Trisa Dominic, Dr. S.A. Ansari, 10 years, 2012- 2022 | 412.68                            | 22.63  | 33.32   | 7.00                              | 10.10                      | 9.50                           | -                               | 6.72        | 4-JRF                                       | Approved for continuation.               |
| <b>OG-61</b>  | Studies on the causes of <i>Gmelina arborea</i> mortality in plantation of MP, CG and its integrated management. Dr. R.K. Verma, 3 years, 2013 – 2017   | 2.80                              | 1.34   | 0.80  | 0.15                              | 0.30                       | 0.35                           | -                               | -           | -   | Approved for continuation.               |
| <b>TOTAL</b>  |   | <b>415.48</b>                     | <b>23.97</b>   | <b>34.12</b>  | <b>7.15</b>                       | <b>10.4</b>                | <b>9.85</b>                    | <b>-</b>                        | <b>6.72</b> | <b>4-JRF</b>                                |  |

**B. ONGOING PROJECTS (OG) WITH CHANGE REQUEST (CR):**

| S. No.  | Project title/PI/Duration (Start and end year)  | Total budget outlay (Rs. in lakh) | Approx. projected expenditure till 31 <sup>st</sup> March 2016 | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                            |                                |                                 |             | Recommendations of Review Meeting (2016)  |
|---|---|-----------------------------------|--|---|-----------------------------------|----------------------------|--------------------------------|---------------------------------|-------------|---|
|   |   |                                   |  | Budget Requirement for 2016-17                          | Sub Head wise breakup for 2016-17 |                            |                                |                                 |             |   |
|   |   |                                   |  |   | Consumables (M&S)                 | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship  |   |
| 1   | 2   | 3                                 | 4  | 5   | 6                                 | 7                          | 8                              | 9                               | 10          | 11  |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth: NIL</b> |   |                                   |  |   |                                   |                            |                                |                                 |             |   |
| <b>Thrust Area II: Biodiversity conservation and ecological security</b>                                      |   |                                   |  |   |                                   |                            |                                |                                 |             |   |
| <b>OG-62</b><br><b>CR-13</b>  | Standardization of the techniques for germination, collection and maintenance of maximum viability of four important tropical species: <i>Bridelia retusa</i> , <i>Sterculia urens</i> , <i>Boswellia serrata</i> and <i>Saraca indica</i> . Dr. Maitreyee Kundu, 4 years, 2012-2016<br><b>(Change request)</b>             | 4.50                              | 2.08   | 1.74  | 0.10                              | 0.40                       | 0.40                           | --                              | 0.84        | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given. |
| <b>TOTAL</b>  |   | <b>4.50</b>                       | <b>2.08</b>  | <b>1.74</b>   | <b>0.10</b>                       | <b>0.40</b>                | <b>0.40</b>                    | <b>--</b>                       | <b>0.84</b> |   |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |   |                                   |  |   |                                   |                            |                                |                                 |             |   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b>                               |   |                                   |  |   |                                   |                            |                                |                                 |             |   |
| <b>OG-63</b><br><b>CR-14</b>  | Genetic improvement of <i>Dalbergia latifolia</i> Roxb. through selection and evaluation of germplasm in central India. ID No. 204. PI- Dr. Fatima Shirin, Duration- April 2013-March 2016<br><b>Sub-project 1:-</b> Survey and selection of plus trees and establishment of progeny trials of <i>Dalbergia latifolia</i> . | 13.56                             | 2.54   | 1.00  | 0.30                              | 0.20                       | 0.50                           | --                              | --          | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given. |



**Annexure-IX (TFRI)**

|                        |  |              |             |             |             |             |             |    |             |   |
|------------------------|--|--------------|-------------|-------------|-------------|-------------|-------------|----|-------------|---|
|                        | <b>Sub-project 2:-</b> To refine existing micro-propagation protocols of <i>Dalbergia latifolia</i> for production of improved planting stock. <b>(Change request)</b>   | 11.81        | 1.63        | 1.30        | 0.70        | 0.10        | 0.50        | -- | --          | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given. |
| <b>OG-64<br/>CR-15</b> | Collection and morpho-molecular characterization of critically endangered <i>Litsea glutinosa</i> germplasm from Madhya Pradesh and Chhattisgarh. Dr. Naseer Mohammad, 3 years, 2013- 2016 <b>(Change request)</b> | 6.00         | 2.82        | 1.00        | 0.70        | 0.30        | --          | -- | --          | Approved one year extension up to 2017 within sanctioned budget outlay. This will be the last extension and no further extension will be given. |
|                        | <b>TOTAL</b>   | <b>31.37</b> | <b>6.99</b> | <b>3.30</b> | <b>1.70</b> | <b>0.60</b> | <b>1.00</b> | -  | -           |   |
|                        | <b>GRAND TOTAL</b>   | <b>35.87</b> | <b>9.07</b> | <b>5.04</b> | <b>1.8</b>  | <b>1</b>    | <b>1.4</b>  |    | <b>0.84</b> |   |

**C. NEW APPROVED PROJECTS OF XVI RPC 2015 TO BE STARTED IN 2016-2017:**

| S. No.  | Project title/PI/Duration<br>(Start and end year)  | Total budget<br>outlay<br>(Rs. in lakh) | Details of budget required for 2016-2017 (Rs. in lakhs) |                                   |                                  |                                       |                                       |            | Required<br>Manpower<br>(RA/SRF/<br>JRF/ PA/<br>FA etc.) | Recommendations<br>of Review Meeting<br>(2016) |
|---|--|---|---|-----------------------------------|----------------------------------|---------------------------------------|---------------------------------------|------------|--|--|
|   |  |   | Budget<br>Requirement<br>for 2016-17                    | Sub Head wise breakup for 2016-17 |                                  |                                       |                                       |            |  |  |
|   |  |   |   | Consumables<br>(M&S)              | Research<br>Expenditure<br>(FRE) | Travel and<br>Conveyance (Res-<br>TE) | Capital<br>(Scientific<br>Equipments) | Fellowship |  |  |
| 1   | 2  | 3                                       | 4   | 5                                 | 6                                | 7                                     | 8                                     | 9          | 10   | 11   |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth:</b> |  |   |   |                                   |                                  |                                       |                                       |            |  |  |
| <b>NW-74</b>  | Field evaluation of biopesticides, ivermectin and spinosad against major insect larval defoliators. Dr N Roychoudhury, 3 years, 2016-2019. | 6.37                                    | 1.94  | 0.10                              | 0.80                             | 0.20                                  | -                                     | 0.84       | 1-FA   | Approved.                                      |

**Annexure-IX (TFRI)**

|   |  |              |              |             |             |             |             |             |                        |  |
|---|--|--------------|--------------|-------------|-------------|-------------|-------------|-------------|------------------------|--|
| NW-75   | Development of fast food products enriched with <i>Moringa oleifera</i> (Drumstick) leaves and skill upgradation training to rural women. Dr Vishakha Kumbhare, 3 years, 2016-2019.  | 6.00         | 2.07         | 0.40        | 0.62        | 0.30        | 0.75        | -           | -                      | Approved.<br>Follow food safety standards and food technology expert may be involved   |
|   | <b>TOTAL</b>   | <b>12.37</b> | <b>4.01</b>  | <b>0.50</b> | <b>1.42</b> | <b>0.50</b> | <b>0.75</b> | <b>0.84</b> | <b>1 FA</b>            |  |
| <b>Thrust Area II: Biodiversity conservation and ecological security:</b> |  |              |              |             |             |             |             |             |                        |  |
| NW-76   | Studies on maturation and viability of seeds of five important tropical species: <i>Adina cordifolia</i> , <i>Mitragyna parviflora</i> , <i>Lannea coromandelica</i> , <i>Ougeinia oojeinensis</i> and <i>Anogeissus acuminata</i> for effective collection and seed storage. Dr. M. Kundu, 4 years 2016-2020. | 8.86         | 2.39         | 0.40        | 0.55        | 0.60        | -           | 0.84        | 1-FA                   | Approved.  |
| NW-77   | Documentation of biodiversity of forest fungi of central India, Dr. R K Verma, 3 years, 2016-2019.   | 10.98        | 3.38         | 0.15        | 0.45        | 0.50        | -           | 2.28        | 1-JRF<br>1-FA          | Approved   |
| NW-78   | Documentation of insect fauna & flora of mangrove ecosystems in Odisha. Dr. N. Roychoudhury, 3 years, 2016-2019.   | 9.27         | 2.84         | 0.40        | 0.50        | 1.10        | -           | 0.84        | 1-FA                   | Approved.<br>'Insect fauna' in the title replaced by 'insect fauna and flora' and accordingly the first objective of the project is to be changed. Ensure extensive literature survey. Add Co-PI to also document flora. |
| NW-79   | Biodiversity, Regeneration and life-history feedback of forest communities in response to canopy openings under selection cum improvement felling system. Dr Sanjay Singh, 5 years, 2016-2021.   | 16.92        | 4.54         | 1.00        | 0.90        | 1.20        | -           | 1.44        | 1-JRF                  | Approved   |
|   | <b>TOTAL</b>   | <b>46.03</b> | <b>13.15</b> | <b>1.95</b> | <b>2.4</b>  | <b>3.4</b>  |             | <b>5.4</b>  | <b>2 JRF,<br/>3 FA</b> |  |

## Annexure-IX (TFRI)

| <b>Thrust Area III: Forests and climate change: NIL</b>                         |   |              |             |             |             |             |             |             |                             |   |
|---|---|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------------|---|
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement:</b> |   |              |             |             |             |             |             |             |                             |   |
| <b>NW-80</b>  | Studies on improving adventitious rooting in <i>Dalbergia latifolia</i> Roxb. and field performance of its rooted plantlets. Dr Pramod Kumar, 5 years, 2016 – 2021. | 11.80        | 2.34        | 0.50        | 0.70        | 0.30        | -           | 0.84        | 1-FA                        | Approved. This project may be incorporated as component of ongoing project OG 63. |
|   | <b>TOTAL</b>  | <b>11.80</b> | <b>2.34</b> | <b>0.50</b> | <b>0.70</b> | <b>0.30</b> | <b>-</b>    | <b>0.84</b> | <b>1-FA</b>                 |   |
|   | <b>GRAND TOTAL</b>  | <b>70.2</b>  | <b>19.5</b> | <b>2.95</b> | <b>4.52</b> | <b>4.2</b>  | <b>0.75</b> | <b>7.08</b> | <b>2 JRF</b><br><b>5 FA</b> |   |

**D. Budget Summary of Ongoing and New Projects:**

| Sl. No. | Research Projects | Total Budget Outlay (Rs. in lakhs) | Sub Head wise breakup of budgetary requirement (Rs. In lakhs) for 2016-17 |                            |                                |                                 |              |              | Man Power             |   |
|---------|-------------------|------------------------------------|---|----------------------------|--------------------------------|---------------------------------|--------------|--------------|-----------------------|---|
|         |                   |                                    | Consumables (M&S)   | Research Expenditure (FRE) | Travel and Conveyance (Res-TE) | Capital (Scientific Equipments) | Fellowship   | Total        |                       |   |
| 1       | Ongoing Projects  | 451.35                             | 8.95  | 11.4                       | 11.25                          | -                               | 7.56         | 39.16        | 4 JRF                 | Priority is to be given for completion of ongoing projects. All necessary budget support is to be given to ongoing projects before starting new projects. |
| 2       | New Projects      | 70.2                               | 2.95  | 4.52                       | 4.2                            | 0.75                            | 7.08         | 19.5         | 2 JRF<br>5 FA         | New projects will be started subject to availability of funds after fulfilling liability of ongoing projects.   |
|         | <b>TOTAL</b>      | <b>521.55</b>                      | <b>11.9</b>   | <b>15.92</b>               | <b>15.45</b>                   | <b>0.75</b>                     | <b>14.64</b> | <b>58.66</b> | <b>6 JRF<br/>5 FA</b> |   |

## ICFRE funded completed projects in 2015-2016

### Arid Forest Research Institute, Jodhpur

| Sl.No.   | Project title/ PI/ Duration  | Total Budget Outlay (Rs in lakhs) |
|--|--|-----------------------------------|
| 1  | 2  | 3                                 |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |  |                                   |
| 1  | Tapping the potential of some selected indigenous lesser known wild edible plants for food and nutrition in arid and semi arid region. Dr. Mala Rathore, 5 years, 2011-2016                      | 10.00                             |
| 2  | Carbon stock and soil classification mapping for Rajasthan forests, N. Bala, 4 years 2011-16   | 22.05                             |
| 3  | Managing resources to enhance productivity of Agroforestry system in dry areas of Rajasthan. Dr. Bilas Singh, 4 Years, 2012-2016   | 5.50                              |
| <b>Thrust Area II: Biodiversity conservation and ecological security</b>                                 |  |                                   |
| 4  | Refinement of modern nursery practices for raising quality seedlings of selected important forest tree species of arid and semi arid areas. Dr. N.K. Bohra, 5 years, 2011-2016                   | 12.50                             |
| 5  | Impact of <i>Prosopis juliflora</i> on biodiversity, rehabilitation of degraded community lands and as a source of livelihood for people in Rajasthan State. Ms. Seema Kumar, 5 years, 2010-2015 | 5.00                              |
| <b>Thrust Area III: Forests and climate change – NIL</b>   |  |                                   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement – NIL</b>                     |  |                                   |
| 6  | Development of technologies for multiplication of economically important desert plant - <i>Capparis deciduas</i> . Dr Sarita Arya, 5 years, 2010-2015.   | 14.00                             |

### Forest Research Institute, Dehradun

| Sl.No  | Project title/ PI/ Duration   | Total Budget Outlay (Rs in lakhs) |
|--|---|-----------------------------------|
| 1  | 2   | 3                                 |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |   |                                   |
| 7  | Studies on diversity of egg parasitoid wasps, <i>Trichogramma</i> spp. from Punjab and Haryana and their application in biological control of important forest insect pests. Dr. Mohd. Yousuf, 4 Years, 2012 - 2016 | 11.50                             |
| 8  | Biology of hispine bamboo borer- <i>Estigmene chinensis</i> Hope. (Coleoptera: Chrysomelidae) damaging green standing bamboo and its management. Dr. K.P. Singh, 4 years, 2012 - 2016                               | 9.50                              |
| 9  | Development of model of some important medicinal plants with <i>Melia composita</i> and <i>Embllica officinalis</i> in degraded land of Punjab and Uttarakhand. Rambir Singh, 5 years, 2011 - 2016                  | 4.75                              |

|  |   |       |
|--|---|-------|
| 10   | Allelopathic Potential in Regeneration of Sal ( <i>Shorea robusta</i> ) forests Dr. Ombir Singh, 5 years, 2011-2016   | 12.75 |
| 11   | Studies on working quality and finishing aspects of <i>Melia composita</i> . Dr. Kishan Kumar V.S., 4 years, 2012-2016  | 9.0   |
| 12   | Studies on performance of ZiBOC treated imported wood in different agro climatic condition, FRI-482/FPD(WP)-76, Dr. Sadhna Tripathi , 5 years, 2009-2016  | 6.00  |
| 13   | Development of suitable model for enrichment of selected Medicinal Plant Conservation Areas (MPCAs) of Uttarakhand Himalayas. Dr. B.P.Tamta, 5 years, 2011- 2016                                | 7.35  |
| 14   | Study on the performance of treated timbers (ZiBOC, CCB and CCA) and their natural durability in cooling tower. Dr Sadhna Tripathi, 5 years, 2010 – 2015.                                       | 9.63  |
| 15   | Development of composites of lops and tops of <i>Melia composita</i> . D.P. Khali, 3 years, 2012-2015.  | 6.75  |
| 16   | To Develop Medium Density Fiber Board from lops and tops of poplar. Ismita Nautiyal, 3 years, 2012-2015.  | 7.35  |
| <b>Thrust Area II: Biodiversity conservation and ecological security</b>           |   |       |
| 17   | Studies on taxonomy of the family <b>Eulophidae</b> (Hymenoptera: Chalcidoidea) present in National Forest Insect Collection (NFIC), except Doon Valley. Dr Sudhir Singh, 5 Years, 2010 – 2015. | 6.00  |
| <b>Thrust Area III: Forests and climate change -NIL</b>                            |   |       |
| <b>Thrust Area IV: Forest Genetic Resource Management and Tree Improvement-NIL</b> |   |       |

### Himalayan Forest Research Institute, Shimla

| Sl. No.  | Project title/ PI/ Duration  | Total Budget Outlay (Rs in lakhs) |
|--|--|-----------------------------------|
| 1  | 2  | 3                                 |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |  |                                   |
| 18   | Studies on seed germination and longevity of <i>Abies spectabilis</i> (D. Don) Spach. Sh P S Negi, 5 years, 2011-2016  | 11.75                             |
| 19   | Study on the influence of climate on bionomics of <i>Pityogenes scitus</i> Blanford (Coleoptera: Scolytidae) in Himachal Pradesh. Ranjeet Singh, 5 years, 2010-15.                               | 19.00                             |
| 20   | Biology and Management of Insect pests of seeds of <i>Juniperus polycarpus</i> C. Koch and evaluating the insect-pests resistance performance in the nursery. Ranjeet Singh, 3 years, 2012-2015. | 8.56                              |
| <b>Thrust Area II: Biodiversity conservation and ecological security - Nil</b>                           |  |                                   |
| <b>Thrust Area III: Forests and climate change</b>   |  |                                   |
| 21   | Assessment of Carbon Stock in Forest Types of Shimla Forest Circle, Himachal Pradesh. Dr R K Verma, 5 years, 2011-2016   | 21.00                             |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement-NIL</b>                       |  |                                   |

### Institute of Forest Biodiversity, Hyderabad

| Sl. No  | Project title/ PI/ Duration  | Total Budget Outlay (Rs in lakhs) |
|---|--|-----------------------------------|
| 1   | 2  | 3                                 |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth: NIL</b> |  |                                   |
| <b>Thrust Area II: Biodiversity conservation and ecological security</b>                                      |  |                                   |
| 22  | The successional trends and productivity studies in Sriharikota (SHAR) and Pulicat lake ecosystem for conservation of Biodiversity. Dr G R S Reddy, 3 years, 2013-2016 | 14.75                             |
| <b>Thrust Area III: Forests and climate change: NIL</b>   |  |                                   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement-NIL</b>                            |  |                                   |

### Institute of Forest Genetics and Tree Breeding, Coimbatore

| Sl.No  | Project title/ PI/ Duration  | Total Budget Outlay (Rs in lakhs) |
|--|--|-----------------------------------|
| 1  | 2  | 3                                 |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth-NIL</b> |  |                                   |
| <b>Thrust Area II: Biodiversity conservation and ecological security</b>                                     |  |                                   |
| 23   | Development of models for conversion of plantations into secondary forests in Andaman islands. Shri. S. Saravanan, 5 years, 2011-2016  | 9.00                              |
| 24   | Restoration ecology and species recovery studies in Tsunami impacted mangrove areas in Andaman. Shri. S. Saravanan, 5 years, 2011-2016   | 10.00                             |
| <b>Thrust Area III: Forests and climate change: Nil</b>  |  |                                   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement</b>                               |  |                                   |
| 25   | Genetic improvement of <i>Gmelina Arborea</i> Roxb. through Selection and clonal evaluation. Shri. A. Mayavel, 5 years, 2011-2016  | 19.50                             |
| 26   | Selection and screening of germplasm of <i>Thespesia populnea</i> for improving productivity. Dr Kannan C.S. Warriar, 5 years, 2011-2016   | 11.00                             |
| 27   | Development of methods for functional analysis of genes involved in salt tolerance in Eucalyptus. Dr. N.V. Mathish, 7 years, 2009-2016   | 30.93                             |
| 28   | Incorporating resistance in Eucalyptus to <i>Leptocybe invasa</i> Fisher & La Salle (Hymenoptera: Eulophidae) through expression of insect specific dsRNA. Dr. N.V. Mathish , 4 years, 2012-2016 | 29.00                             |
| 29   | Cytogenetic analysis of selected native tree species. Dr. R. Yasodha, 2013-2016  | 11.00                             |
| 30   | Selection and Evaluation of High yielding clones of <i>Pongamia pinnata</i> . Dr. K. Palanisamy, 4 years, 2011- 2015.  | 18.38                             |

### Institute of Forest Productivity, Ranchi

| Sl.No<br>.   | Project title/ PI/ Duration   | Total Budget<br>Outlay<br>(Rs in lakhs) |
|--|---|---|
| 1  | 2   | 3                                       |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |   |   |
| 31   | Development of agro- techniques for organic cultivation of <i>Tribulus terrestris</i> L. and <i>Cissus quadrangularis</i> L.- medicinal plants extensively used in Traditional System of Medicine (Ayurveda, Unani and Chinese). Dr M. Ray, 3 years, 2013- 2016 | 5.00                                    |
| <b>Thrust Area II: Biodiversity conservation and ecological security: Nil</b>                            |   |   |
| <b>Thrust Area III: Forests and climate change: NIL</b>  |   |   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement</b>                           |   |   |
| 32   | Evaluation of <i>Dalbergia sissoo</i> Roxb. Clones for large-scale clonal forestry in Gangetic plains and Chotanagpur plateau. Dr Sanjay Singh, 5 years, 2011-2016  | 21.50                                   |

### Institute of Wood Science & Technology, Bengaluru

| Sl.No<br>.   | Project title/ PI/ Duration  | Total Budget<br>Outlay<br>(Rs in lakhs) |
|--|--|---|
| 1  | 2  | 3                                       |
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |  |   |
| 33   | Chemical modification of Eucalyptus hybrid oil and development of fragrant products. Mr. S.H. Jain, 3 years, 2013- 2016  | 4.50                                    |
| 34   | Biomass, net primary productivity and shoot productivity of seven industrially important bamboo species in semi-arid and humid tropics of Peninsular India. Dr. Syam Viswanath, 3 years, 2013-2016   | 11.25                                   |
| 35   | Evaluation of wood properties of <i>Melia dubia</i> of different ages from Southern India for finding suitability for various end products and development of value added products (AICP- 2012-2015). Dr. S.K. Sharma, 3 years, 2012-2015. | 6.44                                    |
| 36   | Development of coccinellids based biocontrol programmes for the management of sandal scales and mealy bugs. Dr.Sundarraaj, 4 years, 2011-2015.   | 8.75                                    |
| 37   | Nanocellulose filled starch based composites. Dr. Shakti S. Chauhan, 3 years, 2013-2015  | 4.50                                    |
| <b>Thrust Area II: Biodiversity conservation and ecological security: Nil</b>                            |  |   |
| <b>Thrust Area III: Forests and climate change: NIL</b>  |  |   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement</b>                           |  |   |
| 38   | Growth variability in <i>Melia dubia</i> plantations and seed germination studies. Dr. A.N. Arun Kumar, 5 years, 2011-2016   | 5.00                                    |



### Tropical Forest Research Institute, Jabalpur

| Sl.No  | Project title/ PI/ Duration  | Budget Outlay<br>(Rs in lakhs) |
|--|--|--------------------------------|
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |  |                                |
| 39   | Status of sal heartwood borer, <i>Hoplocerambyx spinicornis</i> Newman and its management. Dr. N. Roy Choudhury, 5 years, 2011 - 2016  | 5.25                           |
| 40   | Studies on insect biocontrol agent, <i>Chrysoperla carnea</i> and its potentiality as insect predator. Shri Subhash Chandra Sonkar, 3 years, 2013-2016   | 5.00                           |
| 41   | Studies on effect of introduction of honey bee on seed production in teak seed orchards. ID No. 202. Dr. N. Kulkarni, 3 years, 2013-2016   | 4.75                           |
| 42   | Standardization of processing and storage techniques of Malkangni ( <i>Celastrus panuculatis</i> ), Baheda ( <i>Terminalia belerica</i> ) & Baividang ( <i>Embelia tsjeriam-cottam</i> ) fruits/seeds. Shri Hari Om Saxena, 3 years, 2013-2016 | 6.37                           |
| 43   | Evaluation of <i>Schleichera oleosa</i> (Kusum) fruits for their nutritional value and development of value added products for economic development of local people. Hari Om Saxena, 3 years, 2012 – 2015.                                     | 3.56                           |
| <b>Thrust Area II: Biodiversity conservation and ecological security: Nil</b>                            |  |                                |
| <b>Thrust Area III: Forests and climate change: NIL</b>  |  |                                |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement</b>                           |  |                                |
| 44   | Collection of germplasm of <i>Madhuca indica</i> J. F. Gmel for identification of best sources in Chhattisgarh through phytochemical Evaluation. Dr. Fatima Shirin, 3 years, 2013- 2015.   | 11.04                          |

### Rain Forest Research Institute, Jorhat (will be added after the receipt of RAG proceeding of RFRI Jorhat)

| Sl.No.   | Project title/ PI/ Duration | Total Budget<br>Outlay<br>(Rs in lakhs) |
|--|-----------------------------|---|
| <b>Thrust area I: Managing Forests and Forests Products for livelihood support &amp; economic growth</b> |                             |   |
|  |                             |   |
| <b>Thrust Area II: Biodiversity conservation and ecological security</b>                                 |                             |   |
|  |                             |   |
| <b>Thrust Area III: Forests and climate change</b>   |                             |   |
|  |                             |   |
| <b>Thrust area IV: Forest Genetic Resource Management and Tree Improvement</b>                           |                             |   |
|  |                             |   |

**Participants of Review Meeting held on 22<sup>nd</sup> and 23<sup>rd</sup> January 2016 at Board room of ICFRE, Dehradun**

|     |   |
|-----|---|
| 1.  | Dr. Ashwani Kumar, Director General, ICFRE                              |
| 2.  | Dr. G.S. Goraya, Dy. Director General (Research), ICFRE                 |
| 3.  | Sh. Saibal Dasgupta, Dy. Director General (Extension), ICFRE            |
| 4.  | Dr. N.S. Bisht, Director, International Cooperation & DDG (Adm.), ICFRE |
| 5.  | Dr. Savita, Director FRI & Dy. Director General (Education), ICFRE      |
| 6.  | Dr. N.K. Vasu, Director, AFRI, Jodhpur                                  |
| 7.  | Dr. V.P. Tewari, Director, HFRI, Shimla                                 |
| 8.  | Dr. R.S.C. Jayaraj, Director, RFRI, Jorhat                              |
| 9.  | Dr. G.R.S. . Reddy, Director, IFB, Hyderabad                            |
| 10. | Dr. R.S. Prashanth, Director, IFGTB, Coimbatore                         |
| 11. | Dr. U. Prakasham, Director, TFRI, Jabalpur                              |
| 12. | Dr. S. A. Ansari, Director, IFP, Ranchi                                 |
| 13. | Sh. Surendra Kumar, Director, IWST, Bengaluru                           |
| 14. | Dr. K.S. Kapoor Scientist-G & GCR, HFRI, Shimla                         |
| 15. | Dr. N.S.K. Harsh, Scientist G & GCR, FRI, Dehradun                      |
| 16. | Dr.T.S. Rathore, GCR, IWST, Bangalore                                   |
| 17. | P. Subramanyam GCR, TFRI, Jabalpur                                      |
| 18. | Dr.Vimal Kothiyal, ADG (RP), ICFRE                                      |
| 19. | Dr. S.P.S. Rawat, ADG (M&E), ICFRE                                      |
| 20. | Dr. T.P. Singh, ADG (BCC), ICFRE  |
| 21. | Dr. Sushma Mahajan, ADG (P&HD), ICFRE                                   |
| 22. | Sh. Vivek Khandekar, Secretary, ICFRE                                   |
| 23. | Ms. Neena Khandekar, ADG (Admin.)                                       |
| 24. | Sh. Abhilash Damodaran, ADG (Edu & RB) / DCF Admin                      |
| 25. | Dr. V.R.S. Rawat, Scientist-F, BCC, ICFRE                               |
| 26. | Dr. A.K. Mishra, Scientist-F,   |
| 27. | Dr. Shilpa Gautam, Scientist-D, BCC ICFRE                               |
| 28. | Dr. Manish Kumar, Scientist-B, M&E, ICFRE                               |
| 29. | Dr. N.K. Upreti, Scientist-G, FRI                                       |

**REVIEW MEETING OF ONGOING PROJECTS AND EXPENDITURE STATUS OF  
ICFRE INSTITUTES AT ICFRE, HQs**

**Date** - 22<sup>nd</sup> to 23<sup>rd</sup> January, 2016  
**Venue** - Board Room, ICFRE HQs, Dehradun

| <b>Day 1: 22-01-2016</b> | <b>Programme</b>   |
|--------------------------|--|
| 09.30 -10.00 a.m.        | Addressed by DDG (Res.), DDG (Admin.) and Secretary, ICFRE |
|                          | Remarks by DG, ICFRE                                       |

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| <b>Institute wise presentation by Directors of ICFRE Institutes and Discussion on:</b>                                   |  |
| 1. Review on expenditure as on 15 January 2016   |  |
| 2. Brief of preparedness for utilization of additional grant   |  |
| 3. Status of vacancies-category wise as on 31 December 2015 & anticipated vacancies as on 30 June 2016 and December 2016 |  |
| 4. Willingness by scientists for transfer/posting to Chhindwara and Vishakhapatnam Centers                               |  |

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|---|--|
| 10.00 - 10.40                           | Arid Forest Research Institute, Jodhpur                    |
| <i>10.40-11.00 Tea</i>                  |  |
| 11.00 - 11.40                           | Forest Research Institute, Dehradun                        |
| 11.40 - 12.20                           | Himalayan Forest Research Institute, Shimla                |
| 12.20 - 1.00                            | Institute of Forest Biodiversity, Hyderabad                |
| 1.00 - 1.40                             | Institute of Forest Genetics and Tree Breeding, Coimbatore |
| <i>01.40 - 02.30 Lunch</i>              |  |
| 2.30 - 3.10                             | Institute of Forest Productivity, Ranchi                   |
| 3.10 - 3.50                             | Institute of Wood Science & Technology, Bengaluru          |
| <i>4.00-4.15 Tea during the session</i> |  |
| 3.50 - 4.30                             | Rain Forest Research Institute, Jorhat                     |
| 4.30 - 5.10                             | Tropical Forest Research Institute, Jabalpur               |
| 5.10 - 5.45                             | Discussion/Wrap Up   |

| <b>Day 2 : 23-01-2016</b>   | <b>Programme</b>  |
|---|---|
| <b>Institute wise presentation by Directors of ICFRE Institute and Discussion on:</b>   |   |
| 1. Review the progress of all ongoing research projects-physical and financial  |   |
| 2. Status of PCR submission to ICFRE  |   |
| 3. Prioritized list of projects approved by RPC 2015 (XVI RPC) for implementation in 2016-17 depending on the availability of funds. This should include total budget outlay and head wise requirement in prescribed formats. |   |
| 4. Preparedness with regard to multi-disciplinary and multi-institutional projects.   |   |
| 9.15 - 10.00  | Arid Forest Research Institute, Jodhpur (35 Minutes for presentation & 10 Minute for discussion)                      |
| 10.00 – 11.00   | Forest Research Institute, Dehradun (45 Minutes for presentation & 15 Minute for discussion)                          |
| <i>11.00 Tea during the session</i>   |   |
| 11.00 - 11.40   | Himalayan Forest Research Institute, Shimla (30 Minutes for presentation & 10 Minute for discussion)                  |
| 11.40 - 12.10   | Institute of Forest Biodiversity, Hyderabad (20 Minutes for presentation & 10 Minute for discussion)                  |
| 12.10 – 1.10  | Institute of Forest Genetics and Tree Breeding, Coimbatore (45 Minutes for presentation and 15 Minute for discussion) |
| 1.10 – 1.40   | Institute of Forest Productivity, Ranchi (20 Minutes for presentation & 10 Minute for discussion)                     |
| <i>01.40 - 02.30 Lunch</i>  |   |
| 2.30 - 3.10   | Institute of Wood Science & Technology, Bengaluru (30 Minutes for presentation & 10 Minute for discussion)            |
| 3.10 - 3.50   | Rain Forest Research Institute, Jorhat (30 Minutes for presentation & 10 Minute for discussion)                       |
| <i>4.00 Tea during the session</i>  |   |
| 3.50 - 4.30   | Tropical Forest Research Institute, Jabalpur (30 Minutes for presentation & 10 Minute for discussion)                 |
| 4.30 - 5.00   | Discussion/Wrap Up  |